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An Interpretation of the Problems of Wintering the Honeybee Colony

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Advocates of heavy winter packing have based their recommendations on the theory that hive insulation will prevent substantial loss of heat from the winter cluster and thereby conserve the energy of its bees, prolonging their lives so they will still be physiologically young in the spring. When plant life resumes activity, producing pollen and nectar for use in brood-rearing, these bees will be capable of rearing large numbers of young bees to build up the colony population.

Many experiments, scientific as well as practical, have been made to test this theory, but the results have not been consistent. Winter losses continue to tax the resources of the beekeeping industry, because rarely have all the factors been satisfied which are essential in efficient wintering. In the last 20 years there has been a gradual change from cellar wintering to outdoor wintering, and from heavy packing to light packing, to wrapping for wind protection, and finally to no special hive protection at all. Changes in colony standards and food requirements for efficient wintering have paralleled this transition in methods.

[1] In cooperation with the University of Wisconsin.

Effect of Packing on the Winter Cluster

Packing does not satisfy the conservation-of-energy theory, because the winter cluster does not attempt to heat the inside of the hive. In 1929-'31 the writer studied the cluster and hive temperatures at the Massachusetts State College. Several hundred thousand records were made of temperatures in 2 - story hives each equipped with 118 or more thermocouples. Colonies in single-walled hives were contrasted with those in double-walled hives and in hives protected with extreme degrees of insulation. The use of many thermocouples distributed throughout 2-story hives established the fact that during a protracted cold period the temperature of the air surrounding the cluster approaches the outside temperature regardless of the degree of hive insulation. Even a greatly reduced hive entrance is large enough to permit air currents to dissipate the small amount of heat radiated from the cluster surface.

The winter cluster provides its own insulation against heat loss. The insulating shell of closely packed bees, filling the interspaces be-

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tween combs and any empty cells, ranges from 1 to 3 inches in depth, and the more loosely grouped bees in the center generate heat. The temperature within the broodless cluster will vary above the minimum of 57°-60° F., showing an increase or decrease which opposes within limits any external temperature change, whereas the surface temperature remains normally somewhere between 43° and 46° F. As the air temperature surrounding the cluster declines the cluster contracts, reducing the surface exposed to heat radiation, increasing the depth of the insulating shell, and concentrating additional bees in the center to generate heat. Conversely, the cluster expands with a rise in the air temperature. The cluster size and the internal temperature are so balanced that sufficient heat is conducted to the surface bees to maintain the normal surface temperature.

Packing retards the rate of temperature change within the unoccupied hive space, but during a protracted cold spell the air temperature within the packed hive but away from the cluster may approach the outside temperature. The packed hive, by cooling off more slowly, allows the bees time to contract their cluster to the most favorable position and density, but it may not benefit from a rise in the external temperature which allows the cluster in the unpacked hive to shift its position or the bees to make a brief flight.

Facts Learned from Experimental Observations Over a 20-Year Period

The problem of wintering bees has been approached from many angles by projects of the Division of Bee Culture and other agencies. The transition that has been taking place in practical wintering methods is based on the experimental results. A detailed analysis of all experiments cannot be given here, but pertinent facts may be outlined.

The basic problem is not how or where bees are wintered, but what kind of colonies are wintered. Losses resulting from inferior colonies that survive the winter exceed by far the losses from colonies that die out. Small colonies, poor queens, insufficient honey and pollen, and Nosema infections all contribute to a high winter loss of bees, sometimes reaching 50 to 75 percent, although only a small percentage of the colonies may die out.

In a first-class normal colony approximately 30,000 young bees (8 or 10 pounds) emerge during the 6 weeks before brood-rearing ceases early in October. Such a colony must have a vigorous, productive queen and an adequate reserve of both pollen and well ripened honey. Colonies may survive the winter on 20, 30, 40, 50, or more pounds of honey, depending largely upon their strength, available pollen, and climatic conditions. However, the strength of the surviving colony is more than proportional to the amount of food consumed, and 60 pounds of honey should be considered the minimum reserve required for efficient wintering. Honey converted into bees will bring a higher price than honey sold on the market, because those bees contribute to a much larger yield.

Brood-rearing that begins in January or early in February is normal and beneficial to the colony, but it is limited by the amount and position of the reserve pollen. Five hundred square inches of pollen (4 or 5 well-filled combs) is a satisfactory reserve, and the pollen must be within the cluster limits to be utilized for brood-rearing. Pollen reserves in colonies within the same apiary usually vary from a negligible quantity to as much as 500 or more square inches. When other colony conditions are favorable, the quantity and size of surviving populations in the spring are proportional to amount of fall pollen reserves.

When the fall pollen reserves are inadequate, expeller-processed soybean flour supplemented with 25 percent of pollen can be fed as needed.[2] Tests have shown that pollen supplements fed to unprotected wintered-over colonies beginning late in February to advance brood-rearing will yield one to two packages of bees about April 20 and still leave colonies meeting commercial production standards. Two-pound package colonies established the first week in March also maintained near-normal brood-rearing when the pollen factor was provided, even when the temperature fell to zero or a few degrees below. This control over brood-rearing based on the pollen factor makes it possible for the colony to develop in spite of unfavorable climatic or seasonal conditions.

[2] Schaefer, C. W., and Farrar, C. L. The use of pollen traps and pollen supplements in developing honeybee colonies. U. S. Bur. Ent. and Plant Quar. E-531, 7 pp., illus. 1941. [Processed.]

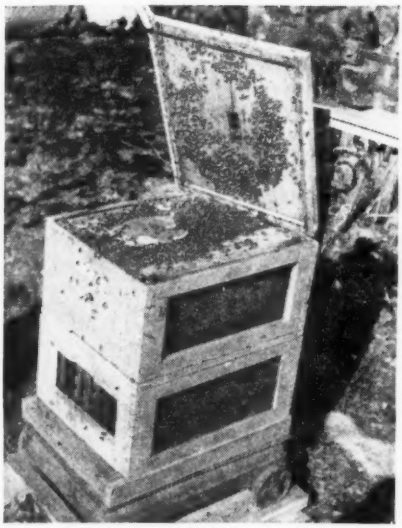


Fig. 1.—A.

Fig. 1.—B.

One of the screened hives (A) contrasted with a 3-story hive in standard equipment (B). Both clusters are feeding on cakes of pollen supplement, but the cake on the screened hive dried out considerably.

The position of honey and pollen reserves in the hive must be in harmony with the normal behavior of the winter cluster. Forty pounds of honey stored in dark brood combs should be present in the top hive body when 10-frame standard equipment is used. From one to three of the middle combs should contain small areas (approximately 3 x 5 inches) which are more or less free of honey, so that the cluster will occupy this body during the coldest weather. Pollen reserves may be covered with sealed honey in the upper hive body or be close to the center in the body just below. From 20 to 30 pounds of additional reserve honey should be contained in frames about equally divided on each side of this lower hive body.

The three-brood-chamber hive is proving practical for year-round management (Fig. 1, B). Its advantage results from simplified management in providing an excess of reserve honey and pollen. In a two-story hive full combs of honey must sometimes be exchanged for light combs to insure 40 pounds of honey in the top chamber and 60 pounds in both. When three bodies are used, the top brood chamber is allowed to become nearly full of sealed honey early in the season, after which it is placed on the bottom board. The queen then uses the second and third brood chambers for the rest of the productive season. Some of the honey put down will be moved by the bees and excess pollen will be stored here. In the fall the first and second brood chambers are reversed and the third is left on top. The honey in three chambers usually totals 70 to 90 pounds, and in the fall the bees will move honey from below to insure a sufficient amount in the top. This excess honey over normal winter requirements is practical insurance against emergencies which pays large dividends in colony yields. Since honey that is not consumed will reduce the amount that must be stored for the next season's reserve, it is never lost.

The winter cluster will form in the upper hive body provided the stores are contained in dark brood combs and there is a small open center free of honey. Under these conditions the cluster will cover combs of sealed honey in the coldest weather. If all the upper combs are filled with sealed honey or if they have not been used in brood-rearing, the bees will cluster lower down in the hive.

Bees of all ages will be found distributed throughout the cluster, and the daily mortality during the broodless period will be proportionally represented by bees of all ages. This

mortality seldom exceeds 15 percent in a healthy population. Most of this loss appears to be caused by the few bees that fail to keep up with a contracting cluster during a temperature decline. Many of these bees will revive if taken into a warm room within 24 hours. The loss is not from starvation, for they usually have honey in their honey stomachs.

An auger hole about 1 inch in diameter, placed just below the handhold in front of the upper hive body as an additional entrance, is rapidly being adopted by beekeepers, and appears to have considerable merit. Such holes have proved beneficial under some circumstances, and at no time have they been found detrimental. A 1-inch hole is used in all brood chambers at the laboratories of the Division of Bee Culture. Only the upper hole is left open in winter. The bottom-board entrance is reduced to ⅜ by 1 or 1½ inches. A lower entrance is desirable so that the bees can clean out the dead and to prevent molding of the combs. An answer to the question as to whether the upper auger hole insures a drier hive atmosphere awaits scientific experimentation.

Protection from the wind, whether obtained by natural surroundings or by wrapping the hive with paper, tempers the atmosphere inside the hive against the extremes of climate characteristics of northern regions. A sheltered location is desirable both under low temperatures when the bees are clustered and under temperatures when the bees can fly.

Maximum sunlight is desirable. The sun shining on the hive permits an expansion or shift of the cluster, and sun shining on an upper entrance may allow a brief flight for the bees. To take advantage of the warmest rays of the sun, hives should face south whenever possible.

Nosema disease is widespread and responsible for much winter loss. It weakens but rarely kills a first-class colony, but it may destroy small or heavily infected colonies. Nosema infections are responsible for cases of dysentery. There is some circumstantial evidence that a colony may become queenless during the winter because the queen has become infected. In other cases the queen does not become infected even though the colony may be so weakened by Nosema that only a few bees remain.

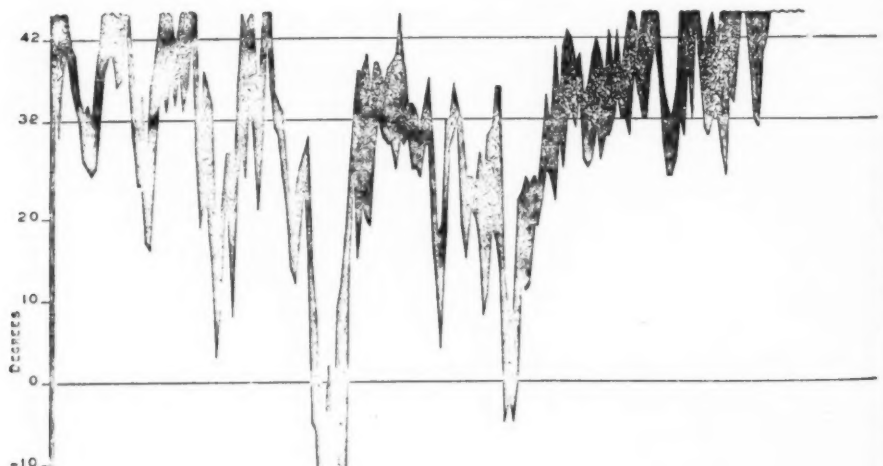


Fig. 2.—Graph showing the range between maximum and minimum temperatures from November 1, 1941, to April 30, 1942. The actual temperatures above 45° F. are not indicated on the graph.

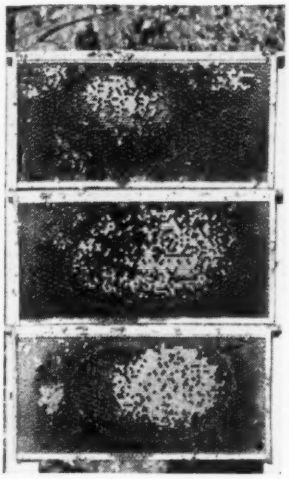


Fig. 3.—A.

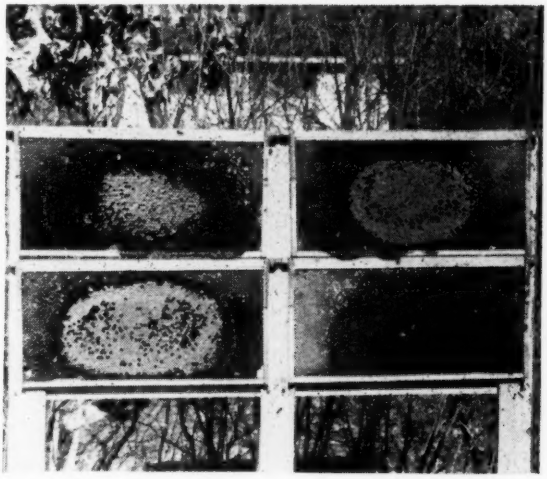


Fig. 3.—B.

Brood nests of the two colonies shown in Fig. 1 on March 12. Eggs, larvae, or sealed brood were found within the areas marked on the combs. The low-quality brood shown on the left is from the screened hive. Both colonies had large numbers of emerging bees. It is not known whether the differences in brood quality was due to less favorable temperatures in the screened hive or to insufficient brood food because the pollen supplement had dried out.

As a result of the flight of bees from hives exposed to full sunlight and provided with upper auger-hole entrances, large numbers of bees are often lost on the snow. This loss has never been proved detrimental, and there is some evidence that it may be beneficial, since bees collected from the snow often show a high percentage infected with Nosema. Infected bees are more likely to be found in the cluster during an extended flightless period than just after the bees have flown. If infected bees are inclined to fly under the least favorable condition, then their flights help to reduce the infection potential within the colony.

A Severe Exposure Test

In the winter of 1941-'42 a small-scale test was made in which two colonies were subjected to unusually severe weather conditions. It should be pointed out, however, that this method of wintering is not recommended.

On November 13 two normal colonies were transferred to skeleton hive equipment having screened sides and ends except for the front of the upper hive body (Fig. 1, A). Since the bees were accustomed to an upper auger-hole entrance, the front section, which had been cut out, was reinserted.

A graphic picture of the extreme temperatures to which these colonies were subjected during the winter months is shown in Fig. 2. The maximum temperature did not exceed 57° F. during the 115-day period from November 30 to March 24. The maximum temperature did not exceed 42° on 114 days, the two longest periods below this limit being 30 days (December 24 to January 22) and 39 days (January 24 to March 3). The maximum temperature did not exceed 32° on 49 days, the longest period below freezing being 16 days (December 27 to January 11). The most severe weather occurred January 1 to 10, during which time the average maximum daily wind velocity was 19 miles per hour and the maximum velocity for the period was 39 miles per hour.

One of the two colonies wintered in the screened hives suffered severely from dysentery early in February, as evidenced by badly spotted combs. A small sample of bees taken late in December showed Nosema infection. Subsequent examinations showed this colony to be 100 percent infected by the time all the bees had died late in February.

The second colony showed no Nosema in any of the small samples examined at frequent intervals during the winter months. At no time was there evidence of dysentery within

this hive, athough the snow was heavily spotted after flight periods. Because this colony had only small, scattered areas of pollen, cakes of soybean flour supplemented with 25 percent of pollen were fed beginning February 26. On March 5 and 12 there was brood of all stages in three frames, but it was of poor quality (Fig. 3).

The colony that survived lost 64.5 pounds in weight between December 4 and June 8. Daily gains from June 8 to September 27 totaled 140 pounds, and losses during the same period amounted to 31.5 pounds. The winter loss added to the summer loss subtracted from the total gain leaves a surplus of 44 pounds produced in a poor season when the average yield for the State (Wisconsin) was only 40 pounds. No special care was given the colony during the summer except to limit the queen to the two ventilated brood chambers with an excluder and to provide two supers of drawn comb. Package colonies, by way of contrast, averaged 73 pounds above 60 pounds required for winter and showed a range in net surplus from minus 65 to plus 165 pounds. In other words, this experimental colony stored 109 pounds more honey than the poorest package colony and 121 pounds less than the best.

The test clearly demonstrates that the normal winter cluster can protect itself to a remarkable degree against severe climate conditions. If Nosema disease had not been discovered in the colony that died out, or if both colonies had been infected, we might have concluded that death was due to the severe exposure.

Langstroth [3] in 1859 described a situation which parallels the treatment given colonies in this test:

> In the winter of 1855-6, I had twenty stocks standing in a row, all but one of which would have been regarded as in a good condition for wintering—not too tight below, nor yet too open above. One was in a hive suspended twenty inches from the ground, and without any bottom board. The chamber for surplus honey-boxes was open to the north; and had eight one-inch holes, all uncovered.
>
> I left home about the 12th of February, the weather being very cold, and the hives all banked up with drifted snow. Returning the last of the month, I examined the whole row, and found the nineteen thawed out, but in a sadly wet and miserable plight. If I could have taken them into a room, out of the reach of the frost, until they were dry, they might have been saved. The weather changed to severe freezing before the next morning, and all the nineteen swarms soon died; while the one that was apparently so neglected, came out strong and healthy. Before adopting upward ventilation, I had lost my best swarms in this way, until I became discouraged.

[3] Langstroth, L. L. A practical treatise on the hive and honey-bee. Ed. 3, p. 341. New York. 1859.

Recommendations for Wintering

The conservation-of-energy theory for wintering bees requires modification to fit the facts accumulated during the last 20 years. The normal colony, whether packed or not packed, is able to maintain its energy under the extreme conditions found in our northern beekeeping regions, when it is provided with adequate honey stores and pollen or pollen supplements for winter brood-rearing, if it is free from Nosema or other diseases. Spring dwindling, so frequently mentioned in the literature, is the result of insufficient pollen or of Nosema infection. Failing queens, partial starvation, severe drifting, poisoning, and other diseases may also cause dwindling. Wintering practices should therefore be directed towards maintaining the energy of the colony unit rather than the energy of the individual bees making up the winter cluster.

Practical standards for the wintering over of productive colonies may be summarized as follows: A normal colony covering 20 frames in the 2-story standard hive with a 130-pound gross weight will have a productive queen, approximately 10 pounds of bees, and a minimum of 60 pounds of honey. The equivalent of 4 to 5 well-filled combs of pollen is desirable, but often impossible to provide. Expeller processed soybean flour supplemented with 25 percent of pollen may be fed continuously after the middle of March to offset deficiencies in reserve pollen. Wintered-over colonies should be sheltered from the wind and exposed to maximum sunlight. The hives should face south, and should have both a reduced bottom-board entrance and a 1-inch auger hole in the front of the upper hive body. After these conditions are met for a healthy colony, the hive may be insulated or left unprotected, according to each beekeeper's individual resources, experiences, or prejudices, with assurance that a strong productive colony will survive. Too heavy packing should not be used, however, especially on the front of the hive. It should be recognized that the strong wintered-over colony will require more skillful management during the active season to utilize its productive resources than the small colony which builds up on the honey flow.

Handling Packing Material

By William L. Coggshall

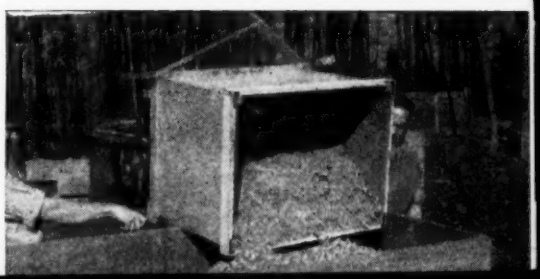
To those of us who rightly or wrongly give a fair amount of insulation to our bees the handling of shavings during packing and unpacking is always a disagreeable part of the work. In the past a light weight box was used on a wheelbarrow but every so often it would slide off when full, particularly when we were hurrying. To overcome these swear-word-producing accidents we have united a wheelbarrow and box as illustrated here. These pictures were taken while packing a sixty-colony apiary in October, 1942

No. 1. A light weight box of plywood with legs and wheel attached. Note handles on each end for lifting and dumping contents of box. This "wheel-box" is sturdy, does not tip over easily, and is a big time saver.

No. 2. The wheel has heavy duty spokes and carries a 2¼ inch tire and tube obtained from a bicycle dealer. It is somewhat smaller in diameter than a bicycle wheel. The metal frame holding the wheel is the rear portion of a regular bicycle frame and it is welded to pieces of bicycle frame which are in turn bolted to the plywood box. Light weight but strong basswood was used for the box frame and legs. By removing four bolts the wheel unit can be taken off and attached to another wheelbarrow used for handling supers.

No. 3. In actual use this outfit has proven very satisfactory. Here it is being filled from the bottom section of a packing case by means of a special scoop shovel operated at the moment by Archie Coggshall.

No. 4. Here the filled box is being dumped into a packing case containing four 2-story colonies. The whole outfit is light in weight and no one objects to lifting it when it is full of shavings.



Langstroth and the Top Entrance

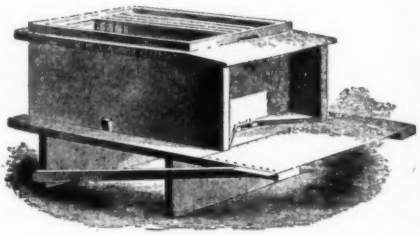
By John Conner

It is interesting to speculate, while reading, just how long a time will elapse before the ideas presented will bear fruit. Some things seem to require repeated telling before they draw attention, even going unnoticed at the time of publication only to be taken from obscurity many years later. A case of this kind that I have followed very closely has been the top-entrance idea.

This goes way back in history but Langstroth unmistakably gave the idea to America in his book almost 80 years ago at a time when each reader, of necessity, must construct his own hives. It is to his everlasting credit that he could grasp the importance of the principles involved and apply them so well. That his hive should be so widely adopted and his other ideas become all but forgotten without trial is a reflection upon the thinking, or rather lack of thinking, of those who have followed after him. To this very day, sad to relate, there has never been any real attempt of a serious or scientific nature to thoroughly explore Langstroth's idea, yet most beekeepers, if they think of it at all, assume this was done years and years ago by those first commercially developing the Langstroth hive.

A close study of the literature of the period reveals that this was not the case. The Langstroth hive took America by storm. It was new, different, better, and much needed. Its development was rapid. Similar hives almost without number sprang into being and, for the first time in history, the real business of mass production of bee hives was begun. It would seem the dominant factors governing the re-design and eventual simplification of his original hive were the conditions imposed by commercial production.

There is ample evidence that the few leaders of the time gave his upper entrance little attention. A. I. Root for instance (Entrances, P. 35 Gleanings, February, 1877) mentions a preference for an entrance other than at the bottom. He often mentions experiments he hoped to make in this direction. Unfortunately these were never carried out. There are evidences also that the true purpose of the Langstroth upper entrance was not grasped by his contemporaries. Keep in mind that Langstroth clearly says his upper entrance was for winter use and the bottom one was to be entirely closed during that time, but in Gleanings (P. 462, June, 1894) no less a leader than the great Doolittle said that the entrance of thousands of the first made Langstroth hives was placed above the tops of the frames to allow the returning workers to go directly to the supers



"In my hives, all the lower passages can easily be closed air-tight, and the bees allowed to go in and out through the winter entrance, which is made at the top of the hive.....This entrance has been found on trial to be very important where bees are wintered in the open air. The lower entrance should be closed in winter."—Langstroth (1873 edition)

with their loads of honey to save "the time, trouble, and travel of climbing through the hive with their loads." Regardless of Doolittle's unquestioned ability as an observer of bee behavior this statement shows him to be totally unfamiliar with the true facts. This statement was published without comment by the editor who should have noted it, nor was there a subsequent correction made. Throughout all the years that we might call the formative period of beekeeping there is every indication that the leaders were well behind Langstroth in this matter.

Ventilation has received its share of discussion for years and the matter of entrances has often been mentioned in this respect but the top-entrance as a separate and independent subject really came into being less than 20 years ago when a few brave individuals ventured to suggest certain benefits might be derived by its use. As a whole they must have been a brave lot for with few exceptions ridicule was their only reward. Some still think it is a recent

(Continued on page 570)

Pros and Cons of the Top Entrance

By Allen Latham

Three or four years ago John Conner of New Jersey was our speaker at our spring meeting and he gave a glowing account of hives with top entrances. He was so convincing that I went home with my mind made up to try the thing out.

One of my apiaries was on a certain farm where the owner had three colonies. For caring for those three colonies I had the privilege of keeping 20 of my own there. But, alas, I had more trouble with swarming from those three colonies than I did from my own 20. Just why I am not prepared to say, but my hives are double-walled with a side entrance and the three were factory single-walled with the entrance at the end.

I closed up the bottoms of those three colonies and rigged a top entrance. There were no swarms all summer. Mr. Conner had asserted that top entrances tend to keep down swarming. It was not a specially good season and so the crop of honey was not large, but the average with the three was much more than with my twenty.

I was elated and proceeded at once to rig top entrances in two apiaries of 20 hives each.

That summer the three colonies did not swarm so far as I know but one may have done so. They gave almost no surplus whereas my 20 gave a good surplus. That was surely a puzzle.

I think that I found the explanation. The first year the three colonies built up strong because there was a drizzle of honey which kept up brood-rearing at a high peak. The second year the early flow was bountiful and the three colonies soon had a brood-nest cramped down to four combs partially filled.

It appears that with the top entrance the bees will put honey in just below the brood, and are quite apt to cap it over. In my own hives with bottom entrances the honey went above the brood and most colonies had nine good frames of brood. Then came our main flow. My hives had big field forces, the three colonies had small field forces.

It is obvious that if this often happens the profit from having top entrances will be badly cut down. The forty-odd colonies of my own with top entrances gave about half the surplus that my regular colonies gave.

At this point I shall have to state that the summer of 1942 gave a reverse result. Many top-entrance colonies gave big surpluses. Several gave none for they had swarmed to death.

The top entrance does have two or three distinct advantages. Weeds do not bother, and skunks do not feed on the bees at night.

The top-entrance colony can be left alone and little or no work be done on it all summer.

Mighty lucky that? Bees in top-entrance hives are frightful to manipulate in the active season. Bear in mind that to do anything the top story must be removed. At once there are thousands of field bees trying to get home and thousands of guard bees resenting what has been done. One must wear a good veil, gloves, have his pant-legs closed and be sure that there are no other openings. Hundreds of bees are on the warpath.

This past season I left those top-entrance colonies well alone until a cold day in early November. We went then and took off the honey crop, getting few stings.

Another peculiarity the bees have with top entrances is to try their best to manufacture a lower entrance. Some of my top-entrance hives had several entrances gnawed through between the supers.

The very best thing that can be said of the top entrance is its effect upon wintering. I never saw such wintering. Open a hive in early spring and you cannot find a damp comb nor moldy bees. There will be some dried-up dead bees down on the bottom-board, but every comb is free from dead bees and is clean as a whistle.

I wonder—could we run our hives with bottom entrances until late in the fall and then shift to the top?

In this locality the top-entrance single-walled hive merely needs a wrapping of water-proof paper as a wind and water break, with a much-cut-down entrance.

One thing is certain. I shall reconvert my top-entrance hives for

(Continued on page 571)

Commercial Honey Extracting

Flash Heating Without Loss of Flavor

By Hoyt Taylor

The extraction of honey is fascinating because it is the final step in taking the honey crop. It has as many variations as there are beekeepers, each having a different method of handling the honey from the truck to the extractor and from the extractor to the final pack.

Much of the ingenuity utilized in these different set-ups has evolved the procedure of extraction to a rather enjoyable operation rather than a sticky, laborious, time - consuming job.

Commercial beekeepers go for extremes on certain steps in extraction outfits, some elaborating on speed and size of outfits, others with a yen for show have exhibition outfits. Then there is the fellow who runs 600 to 1000 colonies of bees using a two-frame extractor in some rickety building where the honey is dipped from a tub or bucket and funneled directly into cans—bees, beeswax, and all.

To see some of these operators in action provides a rare bit of comedy not exceeded by Rob Burns or his colleagues.

With the foregoing thoughts in mind, and having a flair for mechanics and planning, Mr. Lawrence Robins of Griggsville, Illinois, set about planning the most efficient, labor-saving practical outfit I have seen to date. Embodying all these desirable factors, the outfit is inexpensive compared to many costing several times more, and without the advantages Mr. Robins enjoys in his extracting method.

We will proceed in detail with the Robins method as is used in his Griggsville extracting plant. Griggsville is located in Pike County between the Illinois and Mississippi Rivers. The soil and climate seem perfect for honey plants, and many varieties of clover abound in this region. It has been conceded that more colonies of bees are kept, and pounds of honey produced, in Pike County than any other county in Illinois.

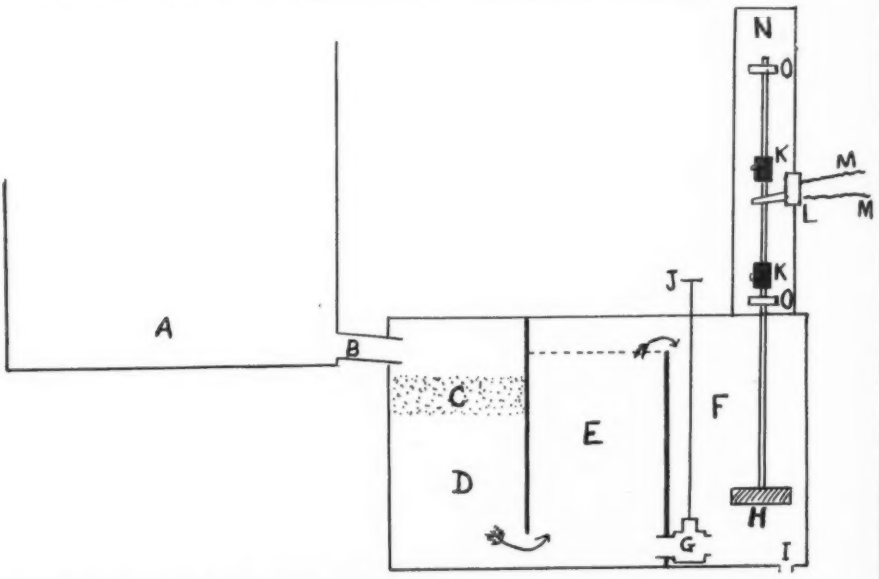
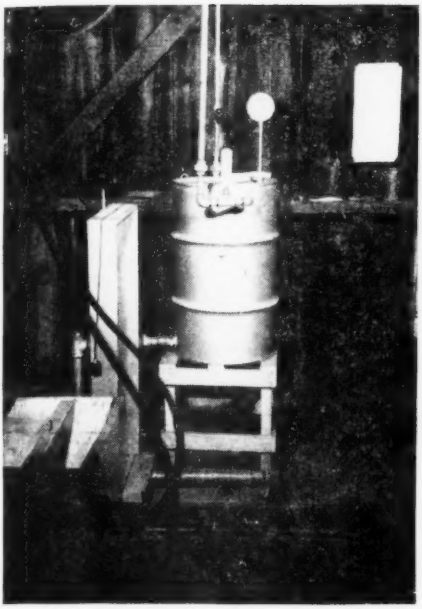


Diagram of automatic, self skimming sump and pumping reservoir set in floor. A, honey extractor, B, combined discharge from extractor, capping melter, and turntable; C, wax and debris floating on the honey; D, partly clarified honey; E, gravity chamber where honey is kept at proper level; F, pumping reservoir; G, valve to permit draining first two chambers into pumping reservoir for emptying clarifying sump; H, float; I, opening to suction pump; J, extended valve handle; KK, adjustable float rod blocks; L, toggle switch with extension lever operated by blocks on float rod; MM, wires to motor; N, support for float rod guides, OO.



The flash heater.

The honey extractor.

Honey is brought directly from the outyards by the apiary truck, unloaded, and stacked to be readily accessible to the uncappers. The floor used is metal, being galvanized sheets over wood. Robins favors this type floor, as it cleans up easier than concrete or other types of floors.

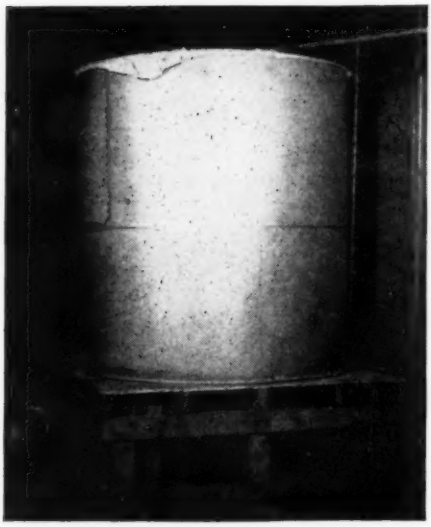
Uncapping is handled by two operators using specially constructed steam-heated knives over a large capping melter. Robins believes the steam knife superior for uncapping under his conditions.

The uncapped combs are then set on a turntable rack holding 60 or more while the preceding batch is spinning dry in a large radial extractor. This method has its advantages in that the extractor can be in continuous operation except when loading and unloading with combs, and provides additional capacity of using only one extractor.

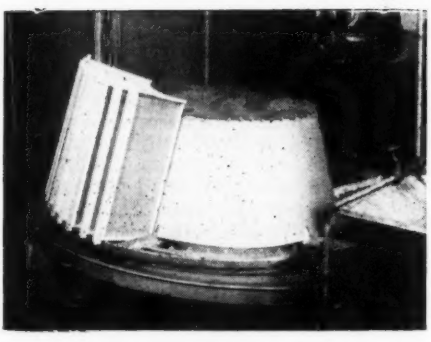
Honey flows from the extractor directly into an ingenious device constructed by Robins. It is a combination of an automatic self-skimming sump and pumping reservoir set into the floor so that the extractor discharges directly into the skimming chamber. After the sump is filled to proper skimming level the operation is automatic until the skimming chamber becomes filled with wax and debris which is skimmed out at intervals throughout the day and run over the melter with the other wax and cappings. Keep in mind that several thousand pounds of honey will pass through before the skimming chamber needs attention.

After passing through this progressive skimming operation, the honey flows by gravity into the pumping reservoir which is automatic in action. A toggle switch actuated by a float in the pumping reservoir starts the electric motor driving a large, slow-speed rotary pump when the honey in the reservoir reaches a determined level, and stops the motor before the reservoir is completely dry. The pump is never allowed to run empty as it could introduce air bubbles and foam into the honey.

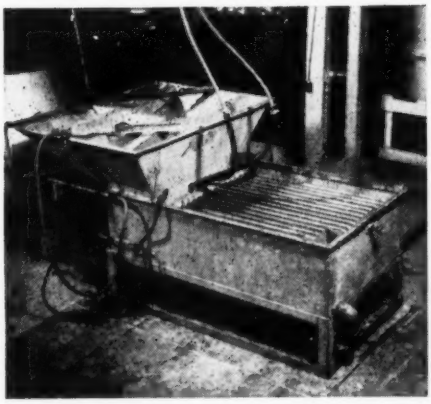
The honey is pumped from the pumping reservoir through a flash heater, constructed by Robins. The heater is made up of tinned copper coils, jacketed, so steam may be introduced and the coils heated by regulating the flow of steam. The temperature of discharging honey may be regulated to any degree desired. A thermometer in the discharge line at the top of the heater shows exactly the temperature at all times so that the operator may see



The 8000-lb. storage tank.



The turntable comb rack.



The capping melter.

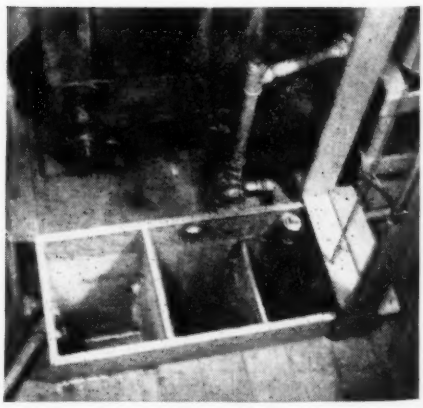
at a glance just what temperature the honey is heated to and regulate the steam flow to maintain proper degree. Once set the procedure is practically automatic in action. The honey being heated instantaneously in a closed line prevents loss of flavor and aroma.

Robins favors heating the honey only to a degree sufficient for final straining through a thickness of unbleached muslin. Operators are especially cautioned on overheating. Robins believes most off flavors in honey are introduced through heating somewhere in the packing process. He strives to produce a product of highest quality, and does it.

From the flash heater the honey passes on to an 8000-pound combination storage and settling tank. A large piece of unbleached muslin is secured over the top of this tank and allowed to bag down approximately 18 inches in the center. This cloth is secured by letting it extend down several inches beyond the upper rim edge of the tank and binding it there with several turns of strong cord tied tightly around the whole. A fiberboard cover is placed over this to keep out dust and retard evaporation. The honey discharge pipe from the flash heater empties directly in the center of the inverted muslin cone. The honey filters through the muslin for a final straining, and is allowed to settle as long as necessary, then drawn off into 60-pound cans or 660-pound food barrels.

As the honey is already partly

(Continued on page 568)



The honey sump.

Back - Lot Extracting

By Chester A. Jones

This article is written for the small beekeeper or back-lotter, who does not depend entirely upon bees for a living. I hope it will help some who are interested in keeping bees, but are having difficulties in getting started, due to the fact that some materials are hard to obtain.

Also I shall try to explain my methods which are very simple, but also efficient and are within the reach of every beekeeper however small. Several beekeepers could work this plan together until such time as they could purchase equipment of their own.

My equipment has been purchased and built piecemeal from the profits of my bees alone. Starting with one colony several years ago, I gradually expanded, and managed to show a profit which was turned into more equipment and bees, until at present I have 45 colonies run for extracted, also some comb honey.

After the honey has been removed and brought into the basement, which is the only honey house I have, it is stacked up and treated for moth. There are several good chemicals on the market. The one that I find most suitable is Paradichlorobenzine. This treatment will last a week or two or until such time as I can get to extracting.

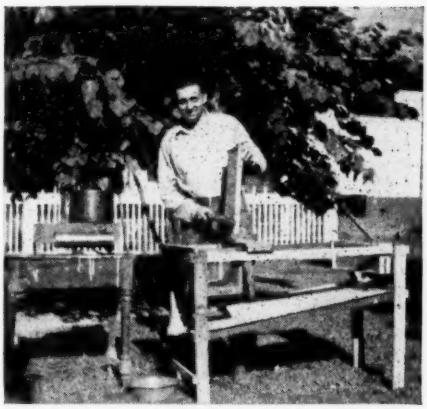
Extractor

My extractor is a two-frame hand-power type which I have always been able to talk the wife into helping turn. But this year she is so busy that I have put a motor on it.

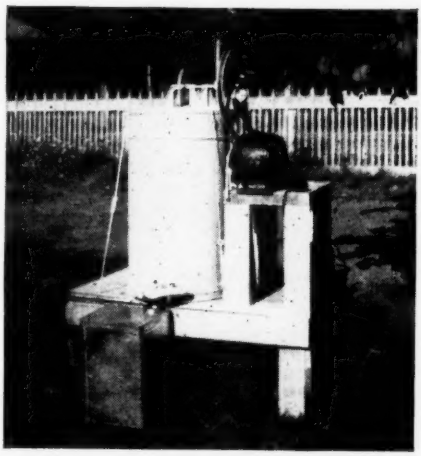
The extractor is mounted on a platform 26x36 inches and 15 inches high. This makes it high enough to drain into a 60-lb. can. The frame work is made sturdy by 4 x 4's used for legs. This gives it weight which keeps it from vibrating. The extractor is then bolted to the frame. Having it built on a frame is a great help when cleaning up, as it can be moved and also stored in a corner when the extracting is over.

Uncapping

In uncapping the honey my equipment consists of a steam knife and a 2-gallon copper boiler. If unable to purchase a copper boiler at this time one can be made from a gallon can with a stem inserted in the lid. For heat I use a gasoline stove which



My uncapping equipment,



My extractor,

And my storage tanks.

can be regulated for just the right amount of steam.

An electric plate can also be used. If this equipment is not available a good sharp knife is very satisfactory.

For a place to uncap the frames I have built a combination draining board and uncapping table. The table is 30 inches high and wide enough to hold the standard frame, and 4 feet long. Near the right end of the uncapping table is placed a removable board through which a 20-penny nail has been driven up from the bottom. This makes a place to rest the frames while uncapping and keeps them high enough so your knife can reach the lower part of the comb. Just to the right of this board is placed the capping basket which is a frame basket covered with hardware cloth. This is removable for emptying and cleaning and will usually hold about one day's cappings. The cappings are left to drain, then removed the next day when ready to extract again. By this time all of the honey should be drained away from the cappings and the cappings ready to be put into a container and left until ready to melt up.

The uncapping table is built long enough to hold about 30 frames. Directly below the frames is placed a sheet of galvanized tin to catch the drip. The tin is slanted so the honey will drain into a can. This will save all the honey and avoid quite a mess.

The table holds enough frames so 20 or 30 can be uncapped before extracting is started. This will save some time. If you should cut your cappings a little deep do not worry as the wax and honey you cut off is not lost but will be saved later when you drain your cappings and melt up your wax.

Storage

After the honey is drained from the extractor into a 60-lb. can it is then poured into the storage tank to settle. Over the top of the storage tank is placed a ½-inch mesh hardware cloth which will support the strainer cloth, usually a piece of cheesecloth dampened and wrung dry. This cloth will catch the particles of wax and any foreign substances that might have gotten into the honey. After the honey has been in the settling tank for a few days the foam and small particles of wax will come to the top and can be skimmed off. The honey is then ready for sale.

I use a 40-gallon tank but the same principle can be used on any size tank or container. The honey is then bottled direct from the storage tank.

Wax

After the honey has drained from the cappings they can be melted into beeswax by placing them in a 5-gallon can and adding about 1 or 2 gallons of water to be heated. After the wax has all melted, set aside to cool, then the cake of beeswax can be lifted off. Care should be used to save all the beeswax possible for use in the war effort.

Heating the Honey

If your honey has a tendency to granulate this may be retarded by heating the honey to from 140° to 160° and cooling as quickly as possible. The honey can be heated in a water bath. Never heat honey over a direct flame as it will scorch and also discolor the honey. The tank I use for heating is just a little larger than a 60-lb. can. This leaves a 2 inch space around the can of honey, which is then placed on a wooden block and the tank filled with water to the top and heated. To hold the weight of 60 pounds of honey make a frame to go over your stove and place two pieces of iron across the frame and set the honey cans on this. This makes a cheap heater that will process 60 pounds of honey at a time.

Care should be used at all times to keep the honey clean. The extractor should be covered with a cloth when not in use, and the storage tanks kept covered at all times.

This makes for a clean product and also the difference between a one time and a repeat sale. If your honey is cloudy and full of wax particles or small specks, it is not pleasing to the eye and after all a nice looking package is a sale half made.

Springfield, Ills.

OUR COVER PICTURE

"Honeyteria"

The house finch is very fond of honey, and, after getting a taste of it, will consume it with a greedy appetite. Quarrels will often start over a place by the dish. Up to a dozen finches have been observed awaiting their turn to be sweetened.—G. A. Pauli, Pueblo, Colo.

Alvah Wells Yates

1864 - 1943

The passing of Alvah Wells Yates, an ambitious, energetic, typical Vermont Yankee, gives pause to reflect on his life and contributions to his fellowman and industry.

His retentive, mathematical, and creative mind developed practical innovations, many of which were of transient value to him. However, the sum total developed for him a unique career. He was the first to make beekeeping a full-time job in Connecticut.

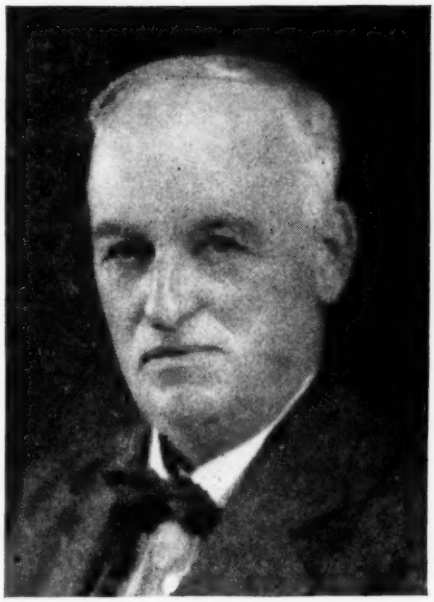
He prospered by seizing opportunities offered by incidental conditions and through the efforts of a helpful, industrious wife, Minnie Emily Allen, who passed on December 21, 1934.

He retired from active business after a cerebral hemorrhage in 1936 when he was relieved by his son, Claude L. Yates, of the thriving beekeeping supply and honey enterprise of A. W. Yates, Incorporated.

Mr. Yates was born in Berkshire, Vt., November 21, 1864, of pioneer English colonial ancestry. His interest in bees began when as a boy of twelve, he salvaged a colony of bees abandoned by bee-tree hunters, but limitations of funds and local information made his progress difficult. The writings of A. I. Root inspired building his equipment until at 22 he had a prosperous apiary of 200 colonies. A "bargain deal" impregnated his entire yard with foulbrood. This, like his experience with the shell game at a circus, made him "cagy" which was a great deal of benefit to his beekeeper friends in later life. Discouraged, he determined to try his fortune in Hartford, Connecticut where he brought his bride in 1889. Starting with nothing but energy, he soon established himself in the butter, eggs, poultry, and meat business. In 1901, he captured another swarm and started his fourth venture in beekeeping.

Rich experience made him a much sought authority and later membership in the Connecticut Beekeepers' Association brought out his accomplishments. He practiced, read extensively and grasped knowledge from bee journals. As a queen breeder he imported $25.00 queens from Italy and kept bees for observation and exhibition at the State Fairs.

During his Presidency of the Connecticut Beekeepers' Association, 1926 to 1928, he promoted state aid for making expert knowledge more available to the beekeepers throughout Connecticut. This inaugurated the present era of "Help the Other Fellow". His own apiary in Hartford was the site of a continuous school of instruction. Some one has said, "He did a lot of good and somehow made it pay."



Alvah Wells Yates

The threat of honeybee extermination both by foulbrood disease and poison spray stirred him to extreme effort. He devoted 25 years to the low pay of an itinerant State inspector to make sure that the scourge would be conquered. Many pleasant and few unpleasant incidents are brought to mind by his inumerable admirers, whom he cultivated in this difficult task. He found them skeptical and he left them cooperative and grateful.

His old friends, veteran beekeepers, recognized him as a worthy opponent and a rival for top honors. We will all remember him as we saw him last,—"hitting the ball with all he had."

Honey Treats Banish Lunch-Box Blues

By Mrs. Benj. Nielsen

Honey All-Bran spice cookies. —Photo courtesy Kellogg Co.

"What SHALL I put in the lunch box tomorrow?" That is a paramount and ever-present question for mothers and wives who must pack school lunches five days out of seven; lunches for war-plant workers six days out of seven—sometimes seven days. It must be something that carries well, tastes good, doesn't take too long to prepare—and uses materials or ingredients easily found in these increasingly difficult shopping tours. And, of course, we must provide variety. All in all, a rather large order nowadays.

Two of the most leaned-upon stays of the lunch box foundation, cookies and fancy breads, now are most difficult to buy. This need not greatly bother honey-minded cooks, "Sugar-for-sweetening" cooks may have a hard time stretching their ration to include cookies and breads for the lunch box but the honey-wise cook can always manage.

Incidentally, if you are sampling freshly made, all-honey cookies for the first time, they may not seem quite sweet enough for you. If not, and if the cookies must be used at once, you may prefer using part sugar and part honey. However, if you are the kind who can manage to cook and keep supplies on hand, you will find that two or three days to a week's time will work miracles for the flavor and texture of honey cookies. And it is no trick at all to change your favorite cooky recipes to use all or part honey as the sweetening agent. Generally speaking, reduce the liquid one-fourth for each cup of honey substituted and bake in a moderate oven, watching carefully to prevent scorching.

Honey's usefulness need not be confined to cookies and bread. No, indeed! Honey sweetened beverages, coffee, cocoa, or fruit drinks are tops for fine flavor. Vacuum packed, they are all the better after a waiting period. Peanut butter thinned with honey and cream makes a delightfully flavored, highly nutritious sandwich spread. Walnut or pecan nutmeats ground or finely chopped and mixed with honey are a variety treat worth trying. Raisins and dried apricots run through the food grinder and mixed with honey to spreading consistency are tops with white, whole wheat, and graham breads.

Sometime when you are lucky enough to catch your grocer with some bananas, slice some into a Dixie cup, drizzle lightly with honey, and sprinkle with chopped nutmeats. Cover tightly with cardboard cap or waxed paper. A small glass jar with screw top makes a handy container. There is lots of energy and food value in this honey fruit combination and it is decidedly easy to take!

If you have an extra vacuum bottle piping hot honey baked apples will provide a welcome treat packed with vitamins and energy.

All-Bran Fig Honey Bread

One-fourth cup shortening, ¼ cup brown sugar, 1 egg, ½ cup honey, 1½ cups milk, 1 cup Kellogg's All-Bran, 3 cups sifted enriched flour, ¼ teaspoon soda, 1½ teaspoons salt, 3 teaspoons baking powder, ½ cup chopped nut meats, and ½ cup chopped figs.

Blend shortening and sugar thoroughly. Add egg and beat well. Add honey, milk, and All-Bran; mix well. Sift flour with soda, salt, and baking powder; add to first mixture with nutmeats and figs, stirring only until flour disappears. Bake in greased loaf pan, with waxed paper in the bottom, in a moderate oven, 350 degrees F., about 1 hour and 15 minutes. Yield: 1 loaf 5 x 9 inches.

Honey Peanut Bread

One cup salted peanuts, 2 cups sifted enriched white flour, 2 cups graham flour, 4 teaspoons baking powder, 1 teaspoon salt, 1 cup honey, 1 egg well beaten, and 1¼ cups milk.

Put the peanuts through a meat

grinder. Sift together the dry ingredients. Add the peanuts, honey, egg, and milk. Mix only enough to blend and pour into greased 5½ x 9½-inch loaf pan. Bake in moderate oven, 350 degrees F., for 1 hour and 15 minutes. Serve when one day old.

Honey All-Bran Spice Cookies

One-fourth cup shortening, ¾ cup honey, 1 egg, 1 cup Kellogg's All-Bran, 1⅓ cups sifted enriched flour, ½ teaspoon salt, 1 teaspoon baking powder, ¼ teaspoon soda, ⅛ teaspoon cloves, and 1 cup seedless raisins.

Blend shortening and honey thoroughly. Add egg and beat until creamy. Add All-Bran. Sift flour with salt, baking powder, soda, and cloves. Combine with raisins and add to first mixture. Beat well. Drop dough by teaspoonfuls on lightly greased baking sheet about 2½ inches apart. Bake in moderate oven, 350 degrees F., about 20 minutes. Yield: 2 dozen cookies 3 inches in diameter.

Honey Oatmeal Raisin Slices

One-half cup shortening, ½ cup sugar, ½ cup honey, 2 well-beaten eggs, ⅓ cup scalded cream, 1 cup oatmeal flakes (cereal), 2 cups sifted flour, ⅔ teaspoon salt, ½ teaspoon soda, 1 teaspoon cinnamon, ¼ teaspoon cloves, 1 teaspoon baking powder, and 1 cup raisins, ground.

Cream the shortening and sugar together. Add honey and eggs and beat well. Pour the cream over the oatmeal and let stand 10 minutes. Add to shortening mixture. Lightly stir in rest of ingredients. Shape into roll about two inches thick. Wrap in waxed paper and chill over night. Cut into thin slices and bake 10 minutes in a moderate oven 350 degrees F. Unused portion may be returned to refrigerator.

Honey Apple Cup Cakes

One-half cup shortening, ⅔ cup brown sugar, firmly packed, ½ cup honey, 2 eggs, unbeaten, 2 cups sifted flour, 1½ teaspoons baking powder, ½ teaspoon soda, 1 teaspoon salt, ¼ teaspoon nutmeg, ½ teaspoon cinnamon, 1 cup grated unpeeled apple, and ⅔ cup chopped nuts.

Gradually add the sugar to shortening and cream well. Stir in honey. Add the eggs, separately, and beat well after each addition. Sift baking powder, soda, salt, and spices with the flour 3 times. Add flour to egg mixture, alternately with apple, beating only until smooth after each addition. Add nuts and blend. Fill greased muffin pans or paper baking cups ⅔ full and bake in a moderate oven, 374 degrees for 20 minutes. Makes 2 dozen medium sized cup cakes.

Honey Nut Cookies

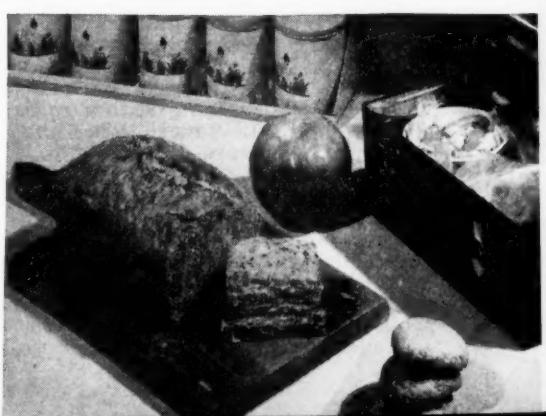
One-half cup shortening, ¼ cup brown sugar, ¾ cup honey, 2 eggs, 2 cups sifted enriched flour, 2 teaspoons baking powder, ½ teaspoon salt, ¼ cup milk, 1 teaspoon vanilla extract, ½ teaspoon lemon extract, and 1 cup chopped nuts.

Cream together the shortening and sugar. Add honey gradually. Add unbeaten eggs, one at a time, beating until thoroughly blended. Sift together flour, baking powder, and salt. Add to the creamed mixture alternately with milk. Add vanilla and lemon extract and nuts. Mix well. Drop by teaspoonfuls two inches apart on greased baking sheet. Bake in moderate oven, 350 degrees F., 15 to 20 minutes. Yield: Six dozen cookies.

Soft Honey Cookies

One-half cup shortening, ¾ cup brown sugar, ½ cup honey, 2 eggs, ½ cup ground seeded raisins, 3 cups flour, ½ teaspoon salt, 1½ teaspoons soda, ½ teaspoon nutmeg, and ½ cup thick sour milk or buttermilk.

Thoroughly cream the shortening and sugar; add honey and eggs and beat well; add raisins. Add the sifted dry ingredients alternately with milk; mix thoroughly and chill. Roll to ¼-inch thickness; cut in rounds. Bake on greased cooky sheets in moderate oven, 350 degrees F., 12 or 15 minutes. Space well apart as they puff in baking. Yield: Two and one-half dozen large cookies.



All-Bran fig honey bread.—Photo courtesy Kellogg Co.

From the Field of Experience

DARK HONEY MAY BE GOOD

By Earl S. Days

I have read many articles in the various bee magazines about the quality of honey that is put on the market. Some of these articles must have been exaggerated or written by persons with an overworked imagination or maybe I have been spared the sight of a really bad pack of honey. Possibly these writers have not made themselves clear. When they importune you to process and bottle only a quality product they lead you to believe that only a water-white honey, perfectly clear, will ever be purchased by the American buying public, and that any honey with color placed on the market would forever place the success of honey selling in jeopardy.

Now I know from experience and observation that that is not the truth, at least not in this locality. I believe the proportion of honey buyers around here who will purchase only a water-white product is much smaller than the percentage that is used to and really prefers a honey with more or less color. I know also that the bees around here do not put up a water-white product for it just does not grow here. Many tell me that "they do not want flavored sugar water", they want real honey. Some customers choose the darker honeys and come back for more.

Just what should a producer do with his darker-colored honey? He can't eat it all himself. Of course, I realize thoroughly that a producer must extract carefully a well-ripened product, handle it just about so, heat it just so much and carefully strain before bottling to remove all foreign material, but I don't believe that it is necessary or expedient to filter with the idea of removing color for there is too much danger of losing some qualities which give honey its appeal, mainly its flavor. I feel that those producers are fortunate, to a certain extent, if they can produce a water-white product, but I don't think it fair of them to dictate to the many producers who are not so situated, just what their product should look like, ouside of cleanliness and purity,—the two qualities which should be striven for above all else.

Wadsworth, Ohio.

GREAT DIFFERENCE IN BEES

By C. O. A. Kramer

Truly, the life of an amateur beekeeper is full of pleasant surprises as well as regrets. I started with a single hive of bees which I purchased from a Southern source. This package was headed by a queen that did not have a lazy bone in her chitine shell. The way she filled that hive with young bees, and the way those young bees later worked bringing in nectar, made me feel that I knew all about beekeeping. You simply set up a hive as per directions, dump your package into the hive, wait eight or ten weeks for nature to take its course, and then work the keys on the cash register.

Of course, I have since found out that I was simply lucky with that one hive. Conditions were extremely favorable that year for the bees and the flow from sweet clover was heavy and long drawn out, and the queen was exceptional.

My first regret was that I didn't buy my bees the following year from the same source of my original purchase. I bought from two different sources. Evidently neither breeder had as good a strain of bees as my original source. The season was late getting started; the packages arrived later than usual; it rained day after day for nearly a month after I hived the packages; the sweet clover was a disappointment that year and I barely secured enough surplus for our own table use. The one bright spot in that year was the fact that I had sense enough to buy half a dozen queens from my original source, requeen the six hives started that year, and to leave on each hive a full-depth food chamber chock full of well-ripened, sealed honey for them to winter on and carry through the following spring. The wisdom of this move bore fruit the following year when I harvested around 200 pounds of surplus per colony.

Medium Depth Supers Best

I sometimes regret that I didn't start out with medium-depth supers instead of the full-size supers that require a Samson or another member of the family to help you lift them, especially when they are piled five or six high. I have since bought a generous supply of the medium-depth

10-frame width supers which take a frame 6¼ inches deep. I use eight frames in them which produces a nice, fat comb, easy to uncap, and the super weighs about 45 pounds when filled. Another nice thing about these medium-depth supers is the fact that the queen very seldom uses them, and, if a few cells are occupied, usually in the super next to the brood, the bees fill the empty cells with honey as soon as the young bees are hatched out. I also find that the bees work much more readily in these medium-depth supers than they do in the usual shallow supers and that they build their cells right down to the bottom bars instead of rounding off the bottom of the foundation as they usually do on the frames of the shallow supers.

Records Really Pay

I often regret that I didn't start numbering my hives and keeping a record of important details such as source and age of queen, amount of surplus produced, temper of bees and the like. I do it now and find that it is a big help in handling my little apiary from season to season. When I trusted to memory regarding queens clipped, queen cells removed and the like I often found that I worked the same hive twice and neglected some other entirely. One is apt to do such things when they have only one day a week or one day in ten to devote to bees. By numbering the hives and keeping a record of such things in a little book one can start just where he left off the last time. For example, by referring to my little record book, I can readily see that hive No. 3 has a prolific queen, one year old and her offspring are gentle and easy to handle, first out in the morning and last in at night, and store about half as much again as any of the others in the group. If I were a commercial breeder I would breed from that queen.

When to Put on Supers

Another of my regrets is that many writers among the professional beekeepers leave so many things unsaid when they write, assuming that the reader already knows the answers. For example, I recently read in one of our bee journals, "Put on supers when they are needed. Supers placed on too early retard colony development." Just when are supers needed? With the two-story food-chamber hive I usually put on one super when I see that the bees are filling in around the frames with new, fresh wax cells. I find that this means that they are becoming cramped for storage space and that they will welcome additional space. Then, when about five of the frames in the added super look as though they are pretty well filled with nectar, I add another super **above** the one already in place. However, if from observation I find that sweet clover is plentiful and in profuse bloom and the hive is pretty crowded with bees, I usually give them two supers at one time. I believe that with the two-story hive you can safely wait until the appearance of the cells of new wax at the top of the frames in the food chamber, because the colony is pretty well developed by that time, and the addition of a super or two will not then provide the extra unfilled space that might otherwise lower the inside temperature and chill the brood.

The pleasures of beekeeping, however, far outweigh the regrets. Working with bees teaches one calmness and confidence. It gives you something to talk about to your friends and guests because once they find out that you keep bees the questions will sometimes tax your ingenuity. It provides pleasant, healthful exercise out in the open. It teaches you observation and appreciation of the wonders of nature. It provides a most delectable table sweet for the family. And, best of all, the surplus can easily be sold to friends and neighbors, who appreciate your honey and enable you to pay your way.

River Forest, Ills.

• • •

BUSH HONEYSUCKLE: A GOOD NECTAR PLANT

By C. W. Wood

The common bush honeysuckle (**Diervilla Lonicera**) of the northeastern states, although long known as the source of a bountiful supply of nectar, seems to have had little attention from beekeepers outside of a few centers where it is present in large numbers. It blooms at a time (July and August), of course, when it has to compete with other sources (milkweed and sweet clover, for instance, in this section) and is no doubt overlooked by some honey producers on that account. In fact, one case was observed last summer in which the beekeeper thought his own bees were getting their surplus from sweet clover when a very large portion of it was coming from the bush honeysuckle on that particular day.

Where the plant has been allowed to have its way, as in open woods and on rocky banks, away from cultivated areas, it often is present in large numbers, and is then a splendid source of nectar over a quite long period. Its habit of spreading over quite large areas, when left undisturbed, is an indication that the plant is able to take care of itself under most conditions. And that is found true in practice, for it is easily propagated from seeds sown in spring or by suckers, which are freely produced around old plants. It would no doubt bear the investigation of the smaller, stationary beekeepers who have waste land near the apiary for its culture.

Incidentally, it belongs to the same family as the showy, spring-blooming plant known in gardens as weigela. But while the latter is too tender for northern conditions (and has little attraction for the bees) our native is fully hardy in Manitoba, growing naturally there and eastward across Canada to New Foundland. Because of rather unshowy yellow flowers, it possesses little value as an ornamental.

Copemish, Mich.

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ONE MAN'S OPINION

Pollination—Pollenation

Every time we see something in print about the transfer of pollen by the bees, thereby causing the fertilization of the blossoms, and the ultimate benefit to the owner thereof, it is spoken of as "pollination". Now if it is poll-e-n that is transferred, why do we speak of it as poll-i-nation?

Believe it or not, I have puzzled over that for years. A flash of genius urged me to look it up in the dictionary. So here is why we use I instead of E.

Pollination is the act of transferring pollen from one blossom to the other, thereby causing fertilization, and the formation of the fruit.

Pollenation is the act of transferring pollen WITHIN the blossom, in the case of self-fertile fruits or seeds.

In other words, bees are most useful in pollination, but do some good in pollenation, for their action undoubtedly does cause some hybridization within the species, thereby giving the strength and vigor that usually results from a first cross.

Heinz a National Packer

In the last Gleanings we spoke about the benefits that should accrue through the entry into the honey packing field of the Heinz Company. We still stand by our guns, but never did intend to convey the impression that we should desert the packers who have worked with us for years. The trouble with most honey packers was, and is, that they are comparatively small. None of them is a national organization in the sense that everybody knows them. They lack the prestige of bigness.

So, while I hand a big bouquet to the packers who have stuck to us and helped us through the lean years, I repeat that a big national organization will be a real tonic to the industry. Old-line honey packers might have to sharpen their wits a bit to hold their position, but the beekeepers are not going to be hurt by a little more competition for their products.

Let's Have Better Bees

There was an article in the July Gleanings about Better Bees. Now the last thing that I want to do is to give friend Isaacson and his "Second Glances" a stab in the back (after the nice things that he said about me), by stealing his thunder, and offering another review, but it wouldn't do you any harm to read that article over again.

When we look at the possibilities that are being unfolded by the scientists, who will delve into a pile of manure and come up with a handful of diamonds, it is easy to believe the most improbable story of things to come. It is entirely possible that at some time in the future we will order queens for specific purposes, such as prolific pollen-gatherers, specialists in clover honey, or even because they gather stickier propolis than others.

My experience in introducing queens for specific purposes has not had much success so far. Over the past ten years, just for the fun of it, I have bought queens from many breeders advertising special qualifications. In my location results sometimes were astonishing but seldom what was expected. Queens advertised as "gentle" would tear the pants off of me. Queens advertised as "prolific" or "early breeders" had to be helped more than scrub queens of my own breeding. Carniolans, which are supposed to be terrible swarmers, have not yet offered to swarm. But the durned critters do build the most burr comb of any-

thing I have seen. Caucasians really do live up to their reputation in production, but also in propolis.

Boraxo for Propolis

Speaking of propolis, and if the editors permit a little free advertising for the benefit of the craft, try Boraxo if you are troubled with propolis on your fingers. It beats anything yet excepting lye. But lye removes propolis by taking the skin with it. Boraxo is mild, and my kind of propolis comes off like magic, with no harm to my skin. (See page 554.—Ed.)

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SECOND GLANCES

By C. M. Isaacson

The article beginning on page 449 mentions several dangers in the use of carbolic acid for removing honey that should be kept in mind. As more and more producers adopt this method, it is doubly important that carelessness by a few does not cause harm to the whole honey industry. It is a time and labor saver, but, as the Editor says, use caution—and this would seem to be especially true when using over unsealed honey towards the end of the season. Mr. Tontz' item on queen odor relates an interesting behavior that nearly every beekeeper must have noticed —the way bees will recognize and be attracted by it on the fingers (and on an empty queen cage, etc., as well).

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Lloyd Gardner's article (page 451) brings out two facts. First, that if the public approves of any method of preparing produce for market, it will grow in favor regardless of objections anyone will advance. Second, that pressure filtering of honey, by nature of the equipment and facilities required, is a procedure for the honey packer, not the producer. When properly done, it evidently is desirable; otherwise, decidedly harmful. The mention of "restoring honey to its original condition" is a good point in its favor, and one probably not brought out effectively hitherto.

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"Drones as honey - getters" may seem to be somewhat of an anomaly at first sight, but after reading Mr. Schlotthauer's words on the subject, their truth becomes clearly evident. He gives rather convincing reasons why artificial insemination can not be really successful—because it is unnatural and lacking in necessary elements, and on account of the time factor involved in changing even a single gene, or even in fixing one already present. But, as has been mentioned several times of late, is it definitely established that the drone is always the product of parthenogenesis? Many are coming to believe otherwise, (page 455).

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"Eat what you can and what you can't, can." The old catchline has a new meaning this year, for canned goods are going to be increasingly severely rationed. Mrs. Nielsen gives good advice, make this a big canning season—and use honey! All her recipes read good enough to "almost taste", (page 456)

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What strikes the eye first on page 458 is that enormously fat comb of honey. That is the kind that all producers like to have, but at times the season (or some neglect of ours at a critical time) says no. The fine pictures and explanatory notes present a clear story of efficient methods in a good season.

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"Iowa produces honey" (page 460). Close to a million pounds by one company in a single season would seem to amply justify that claim. Mr. Moore's account is interesting, and for those not too well versed in apiculture, informative. All stages, from packing for winter to preparing the honey for market, are covered briefly and well.

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There is no doubt much can be accomplished thru selection of breeding stock to eliminate swarming, but the comparison of this problem to that of the poultry raiser in doing away with broodiness is not strictly analogous, for many factors are considerably at variance. However, selective breeding in bees does show good results, and because an occasional season does seemingly upset calculations with heavy and unexpected swarming, is no reason for abandoning efforts. Both work at selection, and development of better methods of colony manipulation are necessary (page 463).

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E. S. Miller's item (page 464) on brood combs, and the desirability of having only good ones, is certainly sound advice. The trouble is that we too seldom act on even what we know is sound practice. Here is one place where it will pay every beekeeper to do so, what with extra

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wax needed badly now, and at a good price.

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I like "One Man's Opinion". Like A. I. Root the author reports on his failures as well as successes. Yes, I believe many of us — too many — have had that experience of colonies building up **on** the flow instead of **for** it. (I must admit—ruefully—that I have been among the number). His method of locating queens is a practical one to use (page 466).

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Everyone planning to order package bees for the coming season should read Morley Pettit's letter on page 467. Do we all have our trials? The answer is YES. Let's help the package and queen producers **help us.**

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Caucasian bees. The editorial (page 481) does not mention one factor which works against Caucasian bees —the difficulty of obtaining them purely mated. Of Caucasian queens purchased from five sources over a period of years, I do not believe that half have been purely mated. Many extensive apiarists hereabouts use a Caucasian-Italian cross, but few have a pure strain. These crosses are not especially gentle but have other desirable characteristics.

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Read the American Honey Institute News Notes on page 483. Then turn to page 508 and note that appeal for "volunteers". What shall our answer be?

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OPA AND PRICE CEILINGS

By Dr. E. F. Phillips

Your first editorial in the August issue on honey price ceilings is a grand piece of advice at a time like this. On a recent trip which took me to the West Coast, I heard of a number of instances of evasion of price regulations and of some interesting ways by which buyers and beekeepers were trying to beat the game. In talking with a western beekeeper about these cases, he told me that if I really wanted to hear some good stories he could take me to the place to hear them. He took me to call on an official of OPA who told stories far more interesting than any that I had before heard, yet not one of them showed any originality. The irregular activities with honey are only feeble imitations of other black markets. It seemed also to be no official secret that specific cases of honey price evasions had been formally reported for action, from which it may be inferred that some buyers and beekeepers may be fined, and if their evasions are serious enough, may be given a vacation at federal expense. It is an extremely wholesome aspect of this situation that honest beekeepers and buyers are reporting cases of infringement, which it is their plain duty to do. OPA is not something entirely foreign and apart from us but is only our own agency for preventing inflation, hence it is just an act of sound citizenship and of self preservation to report facts about evasions. That has been happening in plenty of cases.

Any notion that OPA will smash and that honey prices will be allowed to soar is just wishful thinking. If we had not had price control so far, honey would now probably be selling at 30 cents, but we are fortunate that this did not happen. Anybody who can think things through would be pretty certain that if prices soar, the commercial honey producer would have little chance of making a decent living from his bees after the war, and the survival of commercial honey production demands price regulation. Of course, some poor advice has been handed out to beekeepers at times, and some of them have been misled into actions that are both unwise and illegal, but fortunately the industry as a whole is composed of honest folk who are wise and loyal enough to uphold the laws of the country. You and I have always thought that beekeepers are fine folks, and a vast majority are proving this now to be true.

There is plenty of reason to ask OPA to simplify the honey price regulations so that they may be interpreted and enforced more readily, but it is no show of wisdom to ask that the price structure be swept aside to allow prices to hit the sky. It is to be hoped that in the near future the new regulations which have been promised may be established, so that we may know where we are going a little more surely. But in having these changes made, it is no evidence of sound thinking to urge that honey prices be allowed to go their own way without control, if we have any hope that the industry will survive and grow as it should. I hope that you will keep hammering on this, for the beekeeping industry needs that sort of leadership, now and always.

Floor Price Needed for Honey

By Alan Root

During the past few weeks post-war planning has been occupying more attention in government and private industry. A number of leaders in the beekeeping and honey industry have discussed and advocated that the Department of Agriculture support a floor price for honey to cushion the eventual fall that can be expected at some time in the future.*

Such a plan of price support became possible for agricultural products under certain conditions by the enactment of the Steagall Amendment in 1941. Where the product is one for which the Secretary of Agriculture has asked increased production in connection with the War Program or for some other purpose a price floor may be placed for the product at not less than 90% of parity. In the case of honey the Secretary has not made a public appeal for increased production and so the Steagall Amendment does not have a direct application. The Secretary can, however, at his discretion, establish support or floor prices for a commodity even though he is not going all-out for an increased output. It appears that considerable latitude is allowed the President of the Commodity Credit Corporation regarding the products for which price support programs are established.

At present a price floor is in effect on many agriculture commodities. Wool, for instance, will be pegged at a price of 90% of parity, should it become necessary. Actually wool is being purchased in large amounts now at the ceiling price and no wool has been purchased at the floor price but it would safeguard the producer in a period of falling prices and tends to stimulate wool production now when it is so urgently needed by partially removing the hazard of a disorderly adjustment in price later on.

Many people recall the disastrous drop in the price of honey following World War No. 1. Almost overnight the price dropped to roughly 40% of the original value without a proportionate drop in production costs or a rapid adjustment in people's prospective of selling values which had been artificially raised to an unhealthy level. The shock was almost too great for the small but important industry. Now under the price support plan honey might be pegged at a price roughly estimated at 9c or 10c a pound. A fall in price would thus be arrested at 75% to 85% of the present ceiling price for a period of time following the war and this should tend to cushion sufficiently any reversal in the present trend of honey prices.

It is well recognized that the beekeeping and honey industry is of inestimable value to general agriculture in its relation to the war effort and the problem of feeding the world in the post-war period. The need for increased bee population was never greater to pollinate adequately fruit blossoms, legumes and other food crops requiring the aid of insects.†

We believe that a floor price for honey is possible if sufficient interest is shown by members of the industry and effort is applied in the right direction. Officials in the Department of Agriculture who administer the price support program are busy with problems that by comparison may make honey seem unimportant. Possibly honey in itself is not sufficiently important to justify the time and effort required to put over such a price support plan, but no apology need be made when we say that the keeping of bees now and after the war will have to be carried on no matter what happens.

It will not be a question of maintaining honey markets as such. Something bigger and more important comes first — food production, of which beekeeping is a vital part. For the moment and until better plans are worked out, pegging the price of honey will help to maintain beekeeping and this one step at least should be taken as a means of assuring adequate food supplies in the future.

*A price support plan for honey was discussed among other things at the beekeeping war time conference held in January (see March Gleanings, page 151) and a recommendation in the form of a resolution that a floor price for honey be established was directed to the attention of the Secretary of Agriculture. Later a Committee sent to Washington by the Beekeeping War Council further discussed the question with the officials of the Department of Agriculture and some progress was made. (See March Gleanings, page 164.)

†See U. S. Department of Agriculture Bulletin E-584, The Dependence of Agriculture on the Beekeeping Industry.

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From North, East, West and South

NORTHERN CALIFORNIA, Aug. 6

Weather: We are in the midst of our long dry summer. We have no fear of rain interfering in any way with our bee and honey work. But beekeepers in all parts of the state have complained of too much cool weather for the best honey production. Strange as it may seem, that cool weather stays with us. This is the time for what the newcomer calls hot weather in the valleys and central part of the state. We have had some reports of hot weather but as that heat wave nears the coast the cool breezes from the Pacific rush in and we have a general cooling off for a few days. Beekeepers have complained during the entire season that the cool weather was cutting the honey production. We do not know to what extent and we will not know till the honey is in the can.

Condition of Bees: Migratory beekeepers are making their last moves. They are moving into the bean, star thistle, and blue curl districts and there are some complaints of overcrowding. However, this is an annual complaint and we can do little about it. Some beekeepers tell us they have had a good crop and others say the season has been disappointing. Extracting is going on and sooner or later we will know the result of our summer's work. Earlier this year than usual beekeepers began to requeen their colonies and already some tell us they have completed their requeening.

Market: The urgent request for honey on the part of dealers continues unabated. They are willing to pay the price but this does not bring the honey. If this condition does not change what will be the result? We asked this question of one of our leading dealers and he answered—"Some of us will have to go out of business." We do not want to hear such a misfortune.

Beeswax: At the beginning of the season Dr. Eckert of the University of California urged the beekeepers to produce three pounds of wax to the colony. He said it could be done. Some of us doubted it. Already several reports have come from beekeepers who have not in the past been careful of wax, that they have their three pounds. One beekeeper who transferred several colonies from box hives to movable frames says he has four pounds. This beekeeper for two reasons deserves a reward.

Miscellaneous: Every year we hear of the loss of bees in forest and grass fires. This year we had a record grass fire. Several hundred acres were burned over and several entire apiaries destroyed.

The dusting of poisonous insecticide by air planes is causing beekeepers heavy losses. Just as we finish this article a beekeeper writes us that the bears destroyed his bees and that he is in trouble with the fish and game wardens.—Cary W. Hartman, Oakland, Calif.

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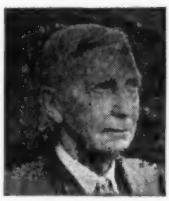
SOUTHERN CALIFORINIA, Aug. 2



Weather in Southern California has certainly taken a turn into real summer. Clear, cool, and delightful until one week ago, and then bang — all brakes were off and shady cool spots were at a premium. Several localities reported temperatures at record heights. That it has wound up the honey flow over most of our natural bee range there is little doubt. Where the bees have access to alfalfa, beans, or other irrigated crops there is still some nectar coming in.

Honey Crop: There is little to add to our former reports. If we were to say from 30 to 200 pounds per colony it would sound erratic, but the fellow who remained on his permanent location, and a poor one at that, is in the low bracket. Compare that with a few reports like this: Move to the orange, then hear of one locality a few miles away on black sage yielding well, so move there, then to desert buckwheat on the lower ground, then to buckwheat on higher ground, with alfalfa, cotton, and thistle yet to be heard from. Each time one has to extract close and depend on a fill-

up for winter stores from the last move. Sounds fantastic, but a few are doing it. If we could turn the calendar back a few years we would like to be in the same game.

Market: Ceiling prices are still being offered for the honey yet unsold. Brokers who have been in the market for years say they never knew it so hard to buy honey. More buyers in the field is the answer.

Miscellaneous: Locality in beekeeping applies not alone to the honey prospects, but in many cases to climatic conditions as well. The cool cloudy spring weather in some sections undoubtedly was very unfavorable to the bees doing their best work during the blooming of the orange and black sage, our two great sources of early honey. It could easily make a difference of from 20 to as much as 60 pounds per colony and from reports evidently did. Of all the counties in California perhaps no other depends, to so large a proportion, on its natural ranges for honey as does San Diego County. Usually when they have a normal rainfall beekeepers there can depend on a honey crop, but for some reason things failed to click this year and reports for a large crop are not encouraging. A few localities report a fair yield but the majority are not very enthusiastic. This sounds a bit confusing, but our lofty mountains and deserts wastes, our lower valleys and upland mesas, influence the temperature and climatic conditions of the honey producing territory of South California.

The Imperial and Palo Verde Valleys are producing an average crop of honey this year. Not nearly so much alfalfa grows there as in former years as many thousands of acres that at one time were planted to this crop have been turned under and are now planted to flax, sugar beets, and other crops that are in great demand at big prices.

Now they say we are going to be able to get tops for the coffee jars that will seal tight. This is along the line of economy that would be well for many of us to practice as the waste in containers, used once and thrown away, is greater in America than in any other country in the world, so we have heard.

Been another hot day but now at 7 P. M. the sea breeze is fast cooling things off and we will likely reach for a blanket before morning.—L. L. Andrews, Corona, California.

TEXAS, August 4

Condition of Bees: During July very little if any honey flow occurred over the south half of Texas. The bees are in their summer quiescence. It is evident from weights of hives taken in this section at localities about 100 miles apart that during the month a two-story hive varied in weight from 161 to 165 pounds. The lowest weight during the period was 158 pounds. This would indicate that the bees have had as completely broodless a period as they have ever had. Hives examined showed anywhere from brood on one frame to small amounts on three frames. Where colonies were requeened at the end of the honey flow during the last week in May, those colonies still have from four to eight frames of brood and no prospect of a regular honey flow ahead. This is one of the drawbacks to requeening at the end of the spring flow in the southern part of Texas. Beekeepers reporting from the entire southern half of the state say that their bees are in better shape than they have been for several years, and that they are making increase wherever possible. A number of beekeepers reported that they are making additional bee equipment from second-hand building material, in order to raise their number of colonies to accommodate their locations.

Miscellaneous: During the month it was the writer's privilege to see 10,000 pounds of south Texas honey being packed under the open sky. The owner of the honey has a considerable number of colonies but most of this honey was purchased from farmer beekeepers and was being prepared for shipment by this assembler to one of the big distributors in the East. So far as could be learned, both the farmers and the assembler were well pleased with the price received.

Older beekeepers will remember the stories of watermelon juice as a food for bees. This year many watermelon producers in south Texas lost a large amount of their crop from drought. Some beekeepers near these watermelon fields noticed that bees would feed on the juice from broken watermelons, so secured permission from the grower and cracked

open a large number of melons. The result was quite startling. Many of the hives had to have the combs taken from them, the soured juice shaken out and the combs allowed to stand in the sun just long enough to dry them. One beekeeper reported that he would try anything once and now he had tried the watermelon story.

Beekeepers everywhere have responded to the call for the saving and turning in of every bit of wax available. Hundreds of old dried combs and drone combs together with the scrapings of large amounts of wax from discarded bee equipment are now being assembled and sent to market. Information relative to experience in increasing the production of wax is one of the great desires of all beekeepers and the discussions as to the various things tried indicate that the beekeepers are themselves finding solutions to the problem of increased wax production, most of the solutions based on accidental happenings in their own apiaries.

After it was too late to correct copy, it was learned that Mr. J. N. Mayes, the best-known beekeeper of Texas, was not born in Texas but in Alabama. He, however, arrived in Texas so young that he did not remember that he had ever been in any other state.—H. B. Parks, San Antonio, Texas.

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IOWA, August 3

Weather: We have had an erratic summer following a spring of unusual conditions. Just at this time in this section of the state rains of 3 to 5 inches are reported. At the same time in northeastern Iowa a report comes in that it is so dry the corn is firing in that area. It is hard to believe these two extremes of conditions would exist within approximately 125 miles. Either extreme of conditions is wholly unfavorable for nectar secretion, consequently the reports indicate the cessation of the summer flow of honey. There is but little prospect for a fall flow and that is in the restricted areas where Hubam clover has been planted in the oat crop. Some of this Hubam will undoubtedly be left for seed but a portion of it will be plowed under as a green manure crop. It is possible that some will be left for pasture since the pasture condition is critical in areas within the state.

Honey Crop: All of this indicates a short crop for the state of Iowa for 1943. The number of colonies operated this year has been variously estimated, but the average is probably 75 per cent of the colonies operated in normal years. It has been said that this reduced number is a result of poor wintering conditions, but in reality the winter as bad as it was crystallized the effect of a poor season of last year. The colonies did not have an opportunity to develop in proper condition for going through even an ordinary winter. The honey flow has been short for the number of colonies which were operated. The combination of this reduction will materially affect the total poundage of honey produced in Iowa this year. The quality of the honey which has been produced is excellent, being unusually light in color and average or better in body. The crop which has been produced will find its way to the market in very short time. Buyers have been active throughout the state and there is a local market to satisfy. Producers who are interested in the marketing of their honey are much confused by the regulations of the OPA regarding the prices which may be charged at the various levels of marketing. They are also confused by the records of business which it is necessary to keep in order to comply with the requirements of the OPA.

Miscellaneous: The matter of pasturage for Iowa is still a question. The demand for war crops in 1944 is equal to if not in excess of the demand for 1943. The demand in 1943 for war crops took out approximately 70 per cent of the available acreage of sweet clover. The remaining 25 per cent was taken out by poor wintering conditions. The 5 per cent which is available is spread very thin over the state. There will undoubtedly be an effort on the part of many farmers to rehabilitate their pasture and hay land even though it is kept at a minimum. Many farmers have found themselves without pasture sufficient to carry their stock and without hay land with which to carry their stock through the winter. Most farmers are exceedingly anxious to correct this fundamental in their farming operations, a condition which they did not expect and which is the result of the unfavorable win-

ter of 1942-43. There has been a tendency for the commercial producers to look for a more profitable location in adjoining states. Some have moved and some are contemplating moving yet this season. There will undoubtedly be a further movement next year. It is felt, however, that a portion of the unfavorable situation which has existed this year will be corrected by the effort to re-establish clover pastures and hay crops. There is always considerable expense to moving and while one is inclined to take the risk yet the net income is less than is usually anticipated.

The general set-up indicates there will be a much greater demand for package bees by Iowa producers in 1944 than has ever been the case in the past. This demand is already asserting itself in the form of orders which are now being placed with shippers of the South for delivery dates. Also producers are inclined to spread their orders so as to have some assurance that in some of the territory it may be possible to ship packages without undue delay. Those who wait until 1944 to estimate their needs for package bees will probably find the supply entirely absorbed by this early demand.

Mr. J. W. Newton of the Newton and Lott Bee Company, Baton Rouge, Louisiana, made a hurried visit recently to beekeepers of Iowa. Mr. Newton is well known to beekeepers as he has appeared on the annual short course and has participated in association meetings. The opportunity to exchange viewpoints between the producers of packages and queens with those of honey producers is gladly accepted by everyone. The unfortunate thing is that there is not more opportunity for this exchange of ideas and viewpoints.—Prof. F. B. Paddock, Ames, Iowa.

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LOUISIANA, July 28

Weather: With just about enough rain during the season to make the farmers happy, most beekeepers found that the showers were a bit too frequent to give our bees a fair chance to work on the unusually fine crop of nectar-bearing bloom. However, our flows are always slow—but long, and the present outlook is for an average crop, but far from the bumper production which we set out to produce.

Market: We are beginning to wonder just what this word means. The demand is here but we seem to be unable to make satisfactory connections between our honey stocks and the widely advertised ceiling prices. Containers are hard to get and SOME buyers have recovered their old-time skill in finding just why our southern honey is of that low grade and quality which makes lower offers necessary. Why worry? Our little producers who are catering to a local consumer trade are coming out very well—and little sales ability is required to dispose of any reasonably good pack.

Miscellaneous: Today we are just over the effects of the big Gulf storm which has been raging for the past three days. While Texas seems to have had to bear the hardest part we were deluged with heavy rains and some wind which stopped all work by the bees and their owners. The weather cleared up this morning and our first duty was to check over the hives for ant invasions. It is not hard to locate distressed colonies; just stand still and listen for a low, moaning sound,—run it down and there you have a picture of a helpless population, with no means of defense against a ruthless invader. Then you kneel down on the wet grass and grease the under side of the plates which are supposed to act as Maginot Lines of defense against the enemy. Then you brush—and brush—and brush, until you think that all the ants for miles around have centered at this one point—but you keep on brushing them off. The moaning ceases, and the colony is saved. This ant hazard is quite a problem in this section. We use about one 25-lb. pail of cupgrease a year in trying to create impassible zones—but we have not yet found any grease which can be depended on to stay soft and tacky over any considerable time.

We have spent a great many years of research time in figuring out the amount of pollen which a colony of bees can store in a given period and some more years to arrive at a more or less definite conclusion that a laying worker or an unmated queen may, sometimes, produce female progeny, so it might not be unreasonable for the beekeeper to ask that a little time be devoted to the

task of either locating or compounding a grease which would remain impassible to the ants over a long period. This achievement would be of real, definite value down here—practical business value—even if it could not be classified as a scientific research problem. Get busy, boys, and we will stop "ragging" you.—Geo. W. Bohne, Luling, La.

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VERMONT, August 4

Weather: After a rather hard winter, we were well pleased to find in March most of our bees alive by blowing into the entrances. After a very backward spring when bees were opened for clipping or the first examination in May we found there was nothing much to be pleased about. Bees have been in the poorest shape for the honey flow that we can remember. Why bees should dwindle instead of building up with plenty of honey and pollen is pretty hard to figure out. Not all bees were in poor shape, but about six of the twelve yards were not ready for a honey crop. One beekeeper nearby with 30 years' experience lost all but two colonies out of 300. We did not lose many colonies outright, but just a lack of strength. Last year we worried about bees getting too strong before the honey flow, this year the reverse, but the fact remains there is nothing much we can do about it. For the first time in many years we hear no complaint about lack of rainfall. Except for a short period in July we have all the rain we need and for the past week it has been mostly rain, and a lot of it in the form of thunder storms.

Honey Flow: While spring weather was not too kind to the bees, the summer has been perfect for a honey flow. Between June and July 15 there was an almost steady honey flow on hot days. There is lots of clover, in fact, more of it than many farmers will be able to cut this year with the shortage of help. At this late date many farmers have only half of their haying done. The result is, bees did not have to travel much to find honey. Wild growing sweet clover seems to be more abundant than usual. The present cold rainy spell may put an end to the flow but even if it does, beekeepers who have had any bees at all shouldn't kick as it will be at least an average crop of excellent quality. The demand for honey is, of course, beyond our ability to supply and much of our correspondence consists of disappointing new customers.

Miscellaneous: The articles by Coggshall and Clarence Tontz are of considerable interest relative to the carbolic screen. When first starting the carbolic screens 13 years ago, I never dreamed so many different types of screens or systems of using them would evolve. Coggshall's system of taking off the supers before using the screen is an interesting illustration. No doubt this works well where queen excluders sometimes prevent free passage of bees out of the supers. We find such extra lifting unnecessary as we do not use excluders. While I have often thought of the blow torch idea we have never tried it to activate the screens in cool weather. Blowing smoke under the screens at such times works very well with us. Mr. Tontz comments on the carbolic acid sometimes "drugging" the bees in the supers. It appears by the picture in this article his screens telescope over the super. I think this makes too tight a fit. We like to have a little space under the screens for bees to get out, especially in hot weather. The main cause of "drugging" bees is too much water on the screen, that is, too much water used to dilute the acid. Never dilute the pure crystallized acid with more than 15% water, less if possible. After moistening the screens it is a good idea to expose the cloth to the sun for a few minutes to let what little water there is in the acid evaporate. It is this excess moisture that sometimes wets the bees, drugging them. If there is no moisture on the screen there will be no "drugging" of the bees. The cloths on the screens should never be wet, but rather almost dry for best results. And remember, never use anything on a carbolic screen except pure refined carbolic acid. After using the screen for 13 years under all types of conditions, I have yet to see a single bit of honey tainted, no matter what the honey was used for. Of all contraptions developed in late years to make a beekeeper's life easier, the carbolic screen is certainly a great labor saver, for both the back-lotter and the bigshot.—Charles Mraz, Middlebury, Vt.

OHIO, AUGUST 2

Weather: To mention weather conditions for April, May, June, and July of 1943 in Ohio would be somewhat of a shock to most beekeepers as well as farmers and others, so, suppose we just omit it here and casually mention it elsewhere.

Bees and Honey: Due to the unreliable spring weather—yes, we can go farther than this spring and include the summer — bees were building strength at a time when they should have been storing surplus honey. It is my opinion that if all colonies could have been of the proper strength at the proper time we could have procured a fair crop of honey. Here is some of my own experience and I believe that it will hold good for the majority of Ohio commercial beekeepers. By February 20, my bees were up in colony strength as much as they should have been the later part of April. By this time in April they were up to June 1st population. Continuous cold wet weather during May caused bees to miss the most of fruit and dandelion bloom. Food and pollen both became scarce, brood-rearing and population receded. This resulted in colonies being down in strength at the time the honey flow started. We fed from February 20 to June 8 inclusive. We actually lost more colonies, by starvation, during this period than our combined losses for the remainder of the year.

Miscellaneous: Now that Italy has disposed of its dictator we are all in hopes that our bees of the Italian origin will settle down and do a better job of producing honey. Many beekeepers have discovered bees are of a co-operative nature and do not approve dictatorship even by their owners.

I noticed in the August issue of this magazine, several interesting articles relative to saving all beeswax possible. This cannot be over-emphasized as our factories and armed forces need beeswax as never before. Importation of wax has been materially reduced. The small crop of honey in 1942 with, perhaps, a smaller crop in 1943 will materially reduce our local crop of wax.

To give our boys in the armed forces all the help possible by the beekeepers of the United States, why not reduce most of our drawn comb back to the original foundation. This would mean millions of pounds of wax to be used in the channels of war. I have experimented on this for sometime and have perfected a method of doing it without injury to the foundation. Nor will it decrease the amount of your surplus honey per colony. Detailed information on this subject may appear in a later issue. —W. A. Coulter, Columbus, Ohio.

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COLORADO, Aug. 6

Weather: The early part of the summer in eastern Colorado was dry and hot, causing the sweet clover, which earlier in the season looked very promising, to shrivel up and mostly go to seed prematurely. San Luis Valley experienced an extended drought which continued through the winter, spring, and early summer, and was broken only by recent rains. In spite of this dryness the sweet clover there held up well until the showers in July came to the rescue. It can be anticipated, however, that unless more moisture is precipitated the blooming season will sharply taper off.

Plant Conditions: This arid condition which prevailed in San Luis Valley may prove to be a serious blow to the next year's crop as the germination of sweet clover seed occurred only in the most favored places where ground moisture was sufficient. In eastern Colorado the germination was good.

Honey Flow: A moderate flow is in progress in San Luis Valley and extracting has been going on since the middle of July. Present indications are, however, that the flow will end early. In Arkansas Valley the alfalfa, which is now mostly cut, yielded well and a welcome surplus of white to light amber honey was harvested from this source. Insect pests of various varieties in some instances interfered and cut down the nectar secretion.

The demand for honey is very brisk both at retail and large lots. Buyers have been active to secure contracts for the season's crop at ceiling prices with little or no attention paid to grade or color.

Help for extracting and working the bees is very scarce placing a heavier burden on the beekeeper himself.—G. A. Pauli, Pueblo, Colo.

MAINE, August 4

Weather: After a late spring which followed a severe winter, bees were in many instances upon the point of starvation when summer weather arrived. Since apple bloom, May 22 to May 29, the weather man has smiled upon bees and beekeepers. Nearly all crops in the State at this date are in excellent condition.

Bees: If bees were not in a weakened condition on the arrival of good weather, they have built up and produced considerable surplus. Strong colonies have produced a good crop of light, mild honey. A number of reports tell of colonies with 100 to 150 pounds being produced. At this time new honey is being offered in many places over the State by local beekeepers. Since the clover honey flow is practically over, the new honey is being extracted in preparation for the goldenrod and fall honey flow. With the soil well supplied with moisture it is possible a good honey flow from fall honey plants may occur this year.

Miscellaneous: The bee inspection work for the State is being conducted in fine shape, by Mr. Paul T. Cane of Winthrop. Last summer a limited amount of inspection work was done in the western part of the State. This year the areas in the south-central part are being concentrated upon, especially in Lincoln, Knox, Waldo, and Penobscot Counties. Mr. Cane states, "I find that every beekeeper whom I have called upon this year is whole-heartedly in favor of the inspection service; many of them remarked that we should have had this service years ago."

Ladino clover this year is unquestionably secreting nectar heavily and is being freely worked by honeybees. One beekeeper states that he has fully 150 pounds of surplus honey on his strong colonies which has come largely from Ladino. In this case, about 12 acres of this clover is within flight range of the apiary. Part of this Ladino acreage is being grown for seed purposes. Ladino clover when used for pasturage or seed purposes blossoms during all of July and most of August. This clover more and more appears to be a fine addition to the honey plants of Maine.—Charles O. Dirks, Orono, Maine.

ONTARIO, Aug. 6

Weather: This is August 6th, and after a rainfall of an inch or more, the day is cool with a north wind blowing. That means buckwheat will not yield for a day or two, giving us a chance to get some honey above escapes in apiaries near buckwheat just starting to bloom.

Crop Conditions: At this date about all Ontario apiarists will know just about what their crop of white honey will be for 1943, and I am afraid that a great many will not have as good a crop as they hoped for early in the season. Generally speaking, judging by reports we have received to date, where colonies were real strong at the opening of the season, a fair yield has been obtained, but unfortunately in many apiaries these strong colonies were in a minority. It would appear that due to very cold weather last April, with no nectar or pollen available, bees got a setback from which they did not recover until clover was about over. It has been reported that in the clay lands of the north shore of Lake Erie, the honey is a near failure, but beekeepers in all other places that we have heard from report good yields from strong colonies with rather low averages for the apiary.

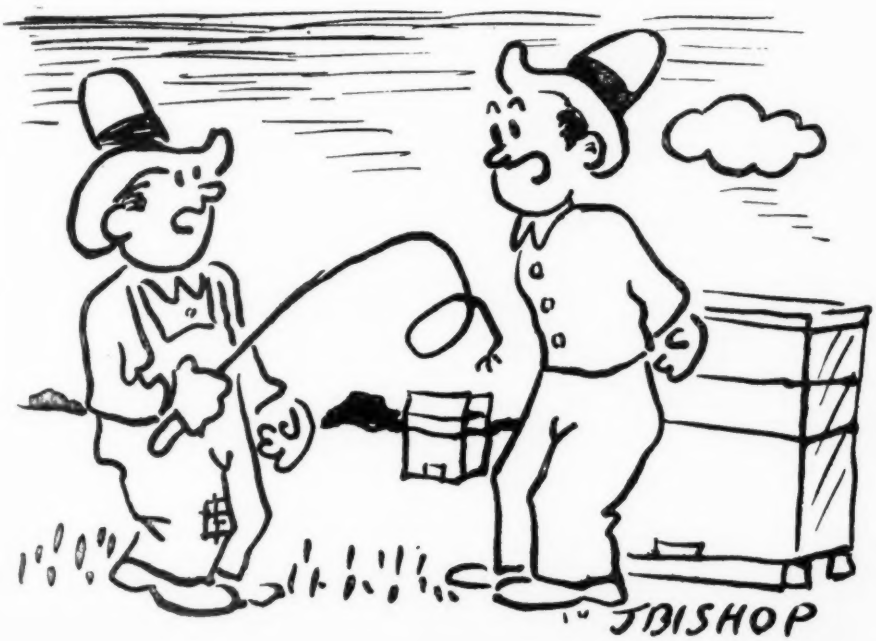
In our own apiaries we have a fair crop of nice honey, with apiary yields from a bit lower than 50 pounds per colony up to nearly three times that amount in a few locations. Rains appear to have been general during the last few days, and with a larger acreage of buckwheat than usual, and with all colonies boiling over with bees now, prospects for a buckwheat crop are good provided we get some real warm weather, for experience has shown us that here in Ontario buckwheat yields little unless we have heat and moisture.

Miscellaneous: That big field of Ladino that we have had under observation this summer, has been worked by the bees ever since bloom appeared and there is still a lot of blossoms. If grown in sufficient acreage I would judge it to be a fine addition to our clovers in so far as it affects the beekeeper. During the last few years a number of farmers near us have been growing the common white Dutch clover for seed,

and yesterday a friend told me that he had just thrashed 108 bushels of this seed and had been offered $30.00 per bushel with prospects of getting a much higher figure. Possibly as much real cash was secured from this field of clover as many farms will give from their whole acreage. This is an example of what specialized farming will do.

With price ceilings on honey, both retail and wholesale, there is little to report except to say that none too much honey is going into the regular channels of trade, as the bulk of the crop seems to be going direct to consumer from the apiarist. We have had many offers to buy honey at away above ceiling prices but they do not appeal to us. Aside from the moral side of the question we do not wish to take any chances, and even if honey at present prices does to some seem a bit low as compared to the soaring price of all fruits, etc., we feel quite satisfied to obey the law, and thankful that we have a fair crop to dispose off at a figure much higher than a few years ago.

Demand from consumers is so insistent that many beekeepers do not attempt to sell honey at present as they get no time to do their extracting. We open for sale during the last three days of the week and as an example to show the demand, might say that yesterday before the noon hour we handed out well over 9000 pounds of honey. If you have never tried selling that much honey in half a day then you have no idea as to how the boys felt when the noon hour arrived and supplies on hand were exhausted. While the "pater" did not do much real work he did, however, share the worry of deciding on how much to allow a customer. Nerves are a bit shattered yet this A. M. so we will sign off until a month later.—J. L. Byer, Markham, Ontario.



"Its no use—slave-driving tactics wont work."

Editorials

The Release of Sugar if and When it Comes

Will that have any effect on the honey market? The menace of the U-Boat has been so curtailed that coffee can now be obtained without points. Probably for the same (U-Boat) reason sugar will be released. Already candy from cane and beet sugar is beginning to show up on the grocery shelves since the Government released 10% additional sugar to the trade, effective August 15. We must not forget, however, that sugar will be in great demand during the canning season yet to follow, and that the demand for honey is the greatest it has ever been in history with the prospect of another short crop. Even if sugar is released, the big consumers, i. e., the manufacturers, say they could use three times the sugar that will be available.

If and when sugar is released in quantitiy, will that have an effect upon the honey market? Conditions are so different from those that followed the first great war that we do not know, and so have asked for an expression from some of the large packers. Opinion is divided. Some hold that there is and will be such a large demand for honey that honey will stay at the ceiling price for some time. Others, less sure, fear a slump in honey. All are agreed, however, that if and when sugar is released in any quantity, the pressure against present ceilings will be relieved.

It is evident that the manufacturing trade, bakers and candy makers, prefer honey for some purposes to ordinary invert sugar syrup that can be had for less price. Until the extent of this demand is fully known, the future price of honey cannot be foretold.

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Honey Industry Food Advisory Committee Meets

A meeting of the newly appointed Honey Industry Food Advisory Committee was called in Washington on August 20, at the request of Mr. H. C. Albin, Chief of the Special Commodities Branch, U. S. Department of Agriculture, Food Distribution Administration. Mr. Harold Clay of the Special Commodities Branch was the Government presiding officer. Members of the Advisory Committee represented all phases of the honey and bee industry. Producers, packers and supply manufacturers were represented at the meeting. Discussion centered around the crop prospects for the country and its possible effect on Food Distribution Administration Order 47 and 47-1 controlling the use of honey by commercial users. The present order restricts consumption of honey for commercial use in the manufacture of other products to 120% of the quantity of honey used during a corresponding quarter, three-month period, of 1941, or 600 pounds per quarter in the absence of any previous use figures by the commercial user.

Crop prospects over the country indicated an under-normal crop.

A representative of the Commodity Credit explained the attitude of his department toward a price floor for honey.

The following day the same representatives called by the Food Administration acted as a temporary Advisory Committee for the O. P. A. under the chairmanship of Mr. W. J. Dedicott, Head of Sugar Section, Food Price Division, O. P. A. Many of the problems arising under the O.P.A. Maximum Price Order 275 were discussed. The Office of Price Administration is attempting to clarify the Order so that all buyers and sellers of honey will be on the same basis with as little misunderstanding as possible as to what prices are permitted by law. Full details of the final action of the Government as the result of the advice obtained in these meetings will be available at a later date.

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To Pack or Not to Pack for Winter

Authorities are not agreed on this question. There is a chance for honest difference of opinion. There are so many factors entering into the question that the beekeeper is urged to weigh carefully all the data both for and against and then make his own decision. It is evident that locality, unreleased or excess moisture, and proper windbreaks may be the deciding factors. If in doubt, pack.

Unrecognized and insidious Nosema may cause us to draw wrong conclusions. There have been numerous cases of colonies prepared for

winter according to the latest ideas —young queens, young bees, plenty of honey and pollen, windbreaks and packing, and yet some of them will be weak or die with no apparent cause. Nosema may be the cause.

It was formerly believed that a colony could not have too much insulation, better to overdo than underdo it. The evidence at hand, however, would seem to indicate that it can be overdone in most localities in the North. Where there is a long sweep of wind for a mile or more and the temperature occasionally drops to zero, packing is needed if it does not cost too much. If the bees are located in underbrush, a grove, or where the prevailing winds are cut off and the temperature seldom goes down to zero, hive insulation may not be needed. Even when there is apparent gain, measured by the crop of honey, the question is, does the gain in dollars and cents adequately cover the cost of packing and unpacking every year. In outyard practice, where some apiaries are located 50 and 100 miles away, the cost of packing is greatly increased; where there is only one yard, and that at home in a spot not too well protected, a wrapping of felt paper may be advisable—especially where there are no windbreaks and winters are severe.

There are two new-old questions that have come up lately—the effect of moisture and the presence or absence of pollen in the combs of an outdoor wintered colony. Fifty years ago the bee journals were filled with discussions about absorbing cushions to take up the moisture as fast as it accumulates, or whether to have a sealed cover so that the moisture, when it did accumulate, would run down the inside of the hive and out of the entrance. When moisture goes into the packing and freezes, obviously such packing does more harm than good. The question is revived again by the use of the new-old principle of upper entrances, first advocated by Langstroth 80 years ago, the purpose of which is to allow the moisture to escape.

Years ago the subject of sugar vs. honey was up for discussion and the practice was to extract all the honey and feed sugar syrup because syrup was considered a better winter food than honey and contains no pollen. (It was believed that pollen was the cause of dysentery and bad wintering). There is now a very definite trend against that dogma and it is believed that natural food and plenty of pollen are essential to good wintering. Colonies deficient in pollen cannot start brood-rearing in January and February, and right here is a moot question—should midwinter breeding be encouraged? The answer to that is that we'll have it anyhow and the trend of opinion is that moderate brood-rearing in January and February is beneficial rather than harmful.

There have been numerous reports of where colonies heavily packed would starve to death within two inches of sealed honey. When the sun comes out it cannot penetrate the packing to enable the cluster to expand and move to fresh stores. With less or no packing the colony can move every time the sun is warm enough to heat the winter cluster.

The article by Dr. C. L. Farrar, page 513, this issue, will bear very careful reading. You may not agree with his conclusions but we can all agree that we can pay more attention to the internal condition of the colony, as he has outlined.

We can say unequivocally that whatever method in the past has given good results from year to year, stick to it and don't try any new ideas, except on a small scale.

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The Sweet Clover Weevil Records indicate that the sweet clover weevil, **Sitona cylindricollis,** is an accidental introduction from the southern part of Europe. W. J. Brown gives data showing that the weevil was present at Hemmingford, Quebec, as early as 1924. It has spread since to the extent that it is found over a great portion of the sweet clover growing area of this country and Canada.

The damage is particularly severe to sweet clover in areas shortly following the introduction of this pest, with the result that sweet clover along the roadsides and in fields is often completely wiped out. In following seasons it appears that the sweet colver begins to stage a comeback. Possibly, this may be due to the effect of seasonal conditions or to the establishment of natural control agencies for the weevil.

As yet, no satisfactory method of combating the weevil has been developed. The only control measure as yet to be recommended (Manitoba recommendation) is plowing under the fields of sweet clover in July.

That, at best, is only partially successful. Considering the specialized feeding habits of the insect, namely, the fact that it feeds upon sweet clover almost exclusively, indicates that there will be considerable difficulty in developing a satisfactory bait. To what extent varietal resistance of the plants may enter into the picture remains to be seen.—J. A. Munro.

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Lumber Situation Tightening Issue No. 9 of the Materials, Substitution and Supply List released by the Conservation Division of the War Production Board indicates a general tightening of an already critical lumber situation. Some grades of pine lumber used in hives as well as section basswood have now been moved up into Group 1. This classification includes material where supplies are insufficient either for war demands alone or for the war plus essential demands.

Manufacturers of hives have been anxiously experimenting with lumber substitutes with little success. One of the common substitutes and most readily available is asbestos cement sheets. The principal disadvantage found in this type of material is that it too readily conducts heat and cold, thus killing the bees. Its lack of strength is another disadvantage particularly where bees or supers are moved very much.

Beeswax remains in Group 2 which is assigned to those materials essential to the War Program where supplies are at the present sufficient to meet war demands plus essential industrial demands.

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Preserve the Purity of Beeswax The OPA ceilings on beeswax are 41½c cash and 43½c a pound in trade. No higher ceiling is granted for wax rendered wholly from cappings or for any beeswax of good color containing the least possible amount of resins from propolis*. There is evidence of penny-wise-and-pound-foolish reasoning to the effect that if just as much can be secured for resin-contaminated, dirty wax, why pay any attention to quality? Why not concentrate on quantity?

It must be remembered that ceiling prices are market prices only in times of shortage. With the submarine menace growing less serious, shipping facilities are bound to grow more favorable. The rationing of coffee is lifted because of easier shipping. It is reported that considerable beeswax is stored on wharves in South American ports. When beeswax becomes more plentiful, market prices will fall, for ceiling prices do not have to be paid if the commodity is available for less. When beeswax again becomes plentiful the contaminated wax will sell for a lower market price as in years gone by. No producer can afford to compromise his product on quality.

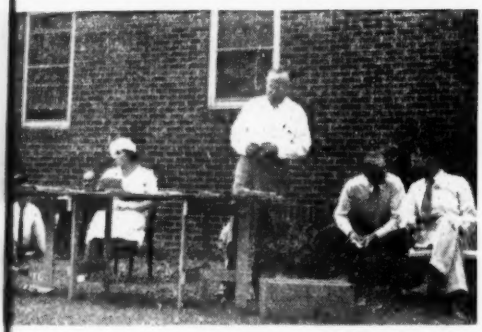
Again, low-melting-point resins are objectionable in many industrial uses. Even our U. S. Navy specifications call for resin-free beeswax. Contaminated wax may be rejected because not up to specifications. Such a danger completely overshadows the paltry and questionable advantage of the slightly larger quantity made possible by including scrapings of propolis from hives and frames.

Finally, resin in any form is so objectionable in beeswax that its very presence encourages the chemically pure substitutes now available at less cost. There is no perfect substitute for beeswax but many industries will use the not-as-good substitute rather than be bothered by resins in illegitimate proportions in beeswax. The low-melting-point resins in propolis invariably make beeswax more porous and sticky. Propolis-contaminated beeswax is not as good for waterproofing as pure beeswax because it is less impervious to moisture. It is not as good for polishes because being more sticky it does not take as high a gloss. It is not as good for comb foundation because the lowered melting point permits the combs to sag and even melt down in extremely hot climates. It is not suitable for candles because even two or three percent of propolis causes smoky flames.

To cease guarding jealously the quality of beeswax and protecting it from deleterious propolis is to invite serious trouble in the future akin to killing the goose that lays the golden egg.

*"Propolis is therefore a very common constituent of the impurities dissolved in beeswax. . . . . Propolis placed in melted beeswax dissolved partly or completely and imparted to the wax many of its physical and chemical properties. Samples of beeswax that were high in propolis. . . . . were distinctly sticky and possessed other abnormal characteristics, such as high density, index of refration, and acid and iodine numbers."

From U. S. Department of Agriculture Technical Bulletin No. 716 by Bisson and Vansell, reproduced in brief in the January issue of Gleanings, p. 11, 1943.



Cuyahoga County Field Day, Parma, July 25

A big county meeting was held at Parma Heights, south of Cleveland, on July 25, at the residence of David Mobberley. Except for light showers lasting only a minute or two, the day was ideal. Before the program George J. Heffner of Parma gave a demonstration to newcomers on how to handle bees and how to take apart and assemble bee hives. See Fig. 1 and 2.

The regular program started at 2 o'clock. Harold S. Ward, Cuyahoga County Agent, gave a general talk on the peculiar weather conditions of this year. He is a warm supporter of bee work and particularly of the County Inspector, George Seidel. See him in action in Fig. 4. Geo. Seidel is sitting on a beehive at the extreme left. When Mr. Seidel took over this work of inspection Cuyahoga County was almost rotten with disease. Thanks to his efforts and to the support of the beekeepers in that County, the territory is almost clean. We'll have to put George down as one of the best county bee inspectors in the whole United States. He's a hail-fellow, well met, everyone likes him, and above all, he is diplomatic when it comes to burning up diseased material that would be a menace to all of the beekeeping interests in the county.

Charles A. Reese, veteran State Bee Inspector of U. S. and Ohio, explained some things about honey prices, black markets, and conditions beekeepers will have to meet this year. While the appropriation for bee inspection work in Ohio has been increased from $4700 to $6000, it is still almost the lowest of any state in the Union. Nevertheless, Charlie has made the best of the situation in Ohio and his actual cost for inspection per colony is very low,—stands almost at the bottom of the list of all the states.

David G. Mobberley, at whose home the meeting was held, not only built the house of brick but he paid for it out of the proceeds of the earnings of his bees in a back lot. He is a good beekeeper, a natural mechanic, and a careful student of bee culture, as one can see by the evidences all around the place.

We are sorry we did not get a picture of the Secretary, Ed Johnson. While he stands in the background, yet he is the life of Cuyahoga County's meetings, if we add to him his team-mate, George Seidel.

Dr. W. E. Dunham, in Fig. 5, is explaining the season's condition and giving many little tricks of the trade in the keeping of bees. He is one of the best bee extension men in the country and Ohio is proud to have him.

Last, but by no means least, we mention Jere Frazer, of the G. B. Lewis Co. In the absence of the President he presided. His friendly urbanity in his introduction of each speaker was always liked by the audience. Jere is another hail-fellow, well met.

XUM

Western New York Meeting, August 7, 1943

By H. H. Root

In spite of gas rationing, and shortage of labor, nearly 200 were present in response to the invitation from the Secretary, George E. Norris, of Batavia, N. Y. The meeting was held at the home of Raymond Gutekunst, Pavilion Center. The picnic dinner was eaten on tables in the spacious Grange Hall, just back of Mr. Gutekunst's honey house, and the speaking was in the Auditorium on the second floor.

After an inspection of Mr. Gutekunst's well equipped honey house, the formal program was carried out.

Three Wintering Requirements

Dr. Dyce estimated the winter loss in New York state at about 25%. Admittedly too high, he urged:

(1) Requeening with a vigorous, young queen in August; (2) leave each colony an ample supply of good honey; (3) double brood chamber (food chamber).

Dr. Dyce made it plain that colonies so prepared can often be wintered without protection, but he advises not only protection but a good windbreak as well. He recommends the use of tarred paper to save expense, and described methods of shortening the time of packing each hive. He emphasized that the packing must be kept dry. He said that around Ithaca the flow lasted three or four days, then suddenly shut off. Over the state the crop was generally fair and of good quality.

Raymond Gutekunst, the newly elected President, also advocated wintering in double brood chambers. In the discussion that followed, Dr. Dyce pointed out that if a record is kept of the time, it is easily demonstrated that fewer man hours are necessary when food chambers are used. Of course, there is no object in two stories if there are not bees enough to fill them. There must be plenty of bees from a young, vigorous queen. Mr. Gutekunst said that he lost everything one year when he packed in government packing cases.

Howard Myers has plenty of winter cases stacked up at the side of his yards but has discarded them in favor of the tarred paper wrapped hive. Dr. Dyce favors the black color because when the sun shines it absorbs the heat and tends to dry out the packing. He repeated that an inch of dry packing is worth more than several inches of wet packing.

Dr. Dyce considers upper entrances valuable chiefly when there is danger of too much moisture and when the colonies are not properly insulated.

Finger Lakes Coop.

Donald H. Lee, of Groton, the new manager of the Finger Lakes Coop. Ass'n., was introduced. Mr. Lee spoke of the successful year of the Finger Lakes Association. He urged producers to think of the future and not be tempted by the relatively higher ceilings of packaged honey, to start retailing for the first time.

Inspection Curtailed

Mr. Gould, the genial State Inspector, told how difficult it is under present conditions of traveling and with the shortage of labor to do very much follow-up inspecting. He asked producers for their cooperation, so that follow-up trips would be unnecessary.

ENEMIES OF BEES

The crab spider lurks in flowers and sinks its tiny fangs into bees that alight for nectar or pollen. The spider sucks the vital fluids from the bee's body and lets the empty bag of its body fall to the ground.
—Photo by Edwin Way Teale.

Just News

The New Rochelle Beekeepers' Association will hold their regular monthly meeting at the home and apiary of Mr. and Mrs. Alfred F. Roth, 146 Oak Street, Portchester, N. Y. on Sunday, September 19, 1943 at 2:30 P. M. A hive demonstration and clipping of queens will be the topic for discussion. Portchester beekeepers take note. A cordial invitation is extended to all. Refreshments will be served.—S. Barnes.

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The last outdoor meeting of the Middlesex County Beekeepers' Association for 1943 will be at 2 P. M. on Saturday, September 25th at Mr. Fredrick Russell's farm, 75 North Road, Chelmsford, Mass., at the junction of Route 4 with Route 126. Members and visitors will bring picnic supper, and Fred is growing some of his matchless cider and sweet corn to be roasted in the open.—A. M. Southwick, Pres.

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Axel Holst, Lyons, Michigan, a prominent beekeeper, passed on suddenly July 24. Mr. Holst was born in Denmark in 1880. For a number of years he was president of the National Bank of Danish West Indies, also he acted as Swedish Consul for the Indies. Mr. Holst became interested in bees after settling in Michigan and was exceptionally proficient in the production of section comb honey. He leaves a wife, two daughters, and two sons to mourn his loss.

Producer Packers vs. National Packers

Ceiling prices on packaged honey are much higher than on honey in 60-lb. cans. Right now sales may be made so easily that many producers, for the first time, are putting honey in small packages. Tempting as the long prices are, producers who have not formerly put up honey in small packages, should ask themselves the following questions:

(1). Have I the necessary equipment and experience to clarify honey suitable for the demands of the retail trade?

(2). Granting that it is easy to sell honey during a brisk demand, quickened by the rationing of sugar, can I keep my market after the pendulum swings the other way?

(3). Is it good policy to lose contact with the packers whom I have been in the habit of supplying?

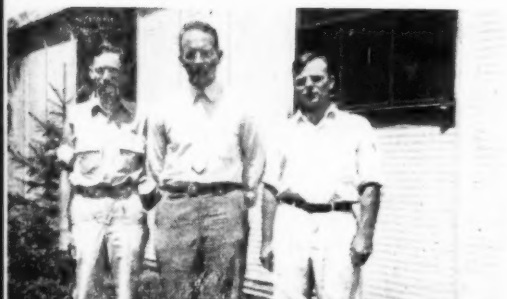
(4). Where will I sell my honey after the war is over?

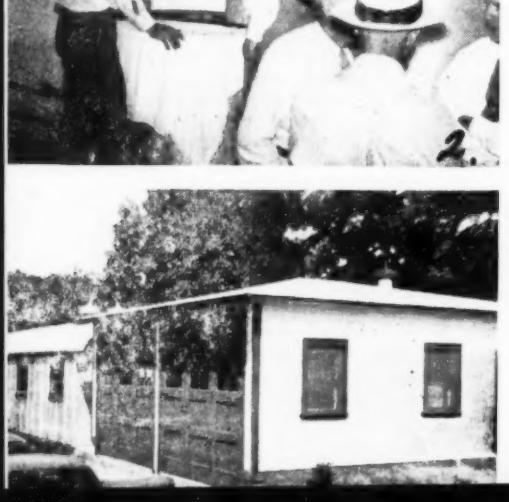
Gleanings has always maintained that the large packers would have greater difficulty in selling honey in large quantities if no honey were sold at the producers' door or by his nearest retailer. There will always be a large number of people who prefer to buy from a producer whom they know and respect. And producers who sell locally usually, in time, create a demand beyond their own capacity to supply. By their own enthusiasm, they build up the general consumer demand.

But, there is a danger in extremes. Butter is sold by national packers, by local, independent and cooperative creameries, and by producers. The existance of national brands does not put the producer out of the selling game. If there were so many producer sellers that the national packers could not continue to function, it would be bad for the dairy business in general.

Perhaps the same is true in the case of honey. There is room for all, but a proper balance should be maintained. If so many producers should become local packers that the national packers could not go ahead, this would soon react against the whole honey industry and at last the producers would have to spend too much time and money in selling.

In times of strained transportation facilities, farm produce should be sold as near to the producing point as possible, and yet for the sake of the future of agriculture the proper balance of distribution must be maintained. There are advantages both in distribution on a national scale, and in local marketing by producers. All help the industry. No one type of selling can hope to do the whole job —in all localities, during all phases of economic business cycles, and in all seasons. This is a time for careful analysis of the future.—Editors.





Five Summer Meetings[illegible]onsin, M
North Dak[illegible]21 - 26,

By M[illegible]

To cover adequately all that transpired at the three regional meetings in Wisconsin, held at Madison, Appleton, and Menomonie, the Minnesota meeting held at the University grounds in St. Paul, also North Dakota meeting at Grand Forks, would fill more space than is available here. Following are a few high lights of the meetings, which were well attended, considering the gas and rubber situation.

(1). This shows part of the honey extracting house, also room for storing bee equipment, located at the Experimental Apiary, out from Madison, operated in conjunction with field station laboratory in Madison, in charge of C. L. Farrar.

(2). Mr. Farrar and Harold J. Clay in the far corner of the extracting room, solving a difficult problem in connection with properly processing honey, which should not be overheated.

(3). This shows C. L. Farrar in the middle and his two assistants W. C. Roberts, left, and C. W. Schaefer, right. Mr. Farrar, in his talk, mentioned the seriousness of Nosema, an adult bee disease discovered in 1857 and named in 1909. Diseased bees leave and walk away from their hives to die. Their wings appear to be affected. Hive populations and honey crops are reduced drastically. Queen bees are also affected and it is thought this disease may be one cause of abnormal supersedure. The cause of Nosema is unknown. The best preventive is keeping populous colonies headed by vigorous queens.

(4). A scale hive in the Madison Experimental Apiary. Let's hope all the supers are full.

(5). One of the high spots of the Menomonie meeting was a visit to S. P. Elliott's extracting house. This shows Mr. Elliott in action, operating a power uncapper. He

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Meetings onsin, Minnesota, and
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By M

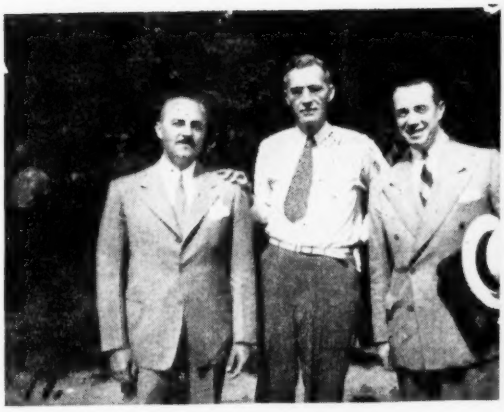
put a batch of combs through his radial extractor to show just how it is done.

(6). **Robert Knudson**, chairman of Menomonie meeting, entertaining a motion asking for government assistance to do some much needed investigational work on Nosema.

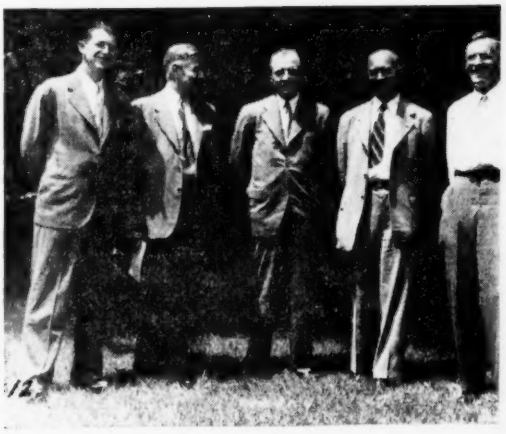
(7). **Mrs. Harriett M. Grace**, Madison, Wisconsin, director of American Honey Institute, telling about work done to increase consumer interests in honey. The Institute keeps in close touch with hundreds of industries and organizations handling foods, so that honey may have the recognition it rightfully deserves.

(8). **Harold J. Clay**, Washington, D. C., gave a most helpful discourse on honey price ceilings and regulations. Beekeepers should not exceed price ceilings put out by O.P.A. There are rumors of black markets in some states. Mr. Clay made it clear that violators of O.P.A. ruling are liable to prosecution. He also said that those who sell somewhat under the price ceiling may create a favorable situation for future honey sales.

(9). **Dr. J. A. Munro**, Entomologist of North Dakota Agricultural College, at Fargo (standing) and **Chas. Hausmann** of Hillsboro, N. D., president of the association. Dr. Munro said the sweet clover weevil is causing considerable damage. Larvae feed on roots, adults feed on tops. As yet no suitable diet to kill the weevil has been found.



(11). Left to right, **Mr. Byer** of Sherman and Jewett Co., Cleveland, Ohio; **R. F. Remur**, of Sioux City Honey Association, Iowa; and **R. B. Willson** of the John Paton Co., Inc., New York City. Mr. Remur, and Mr. Willson gave interesting and informative talks.



(12). From left to right, **Robert Ray**, President of the Minnesota Beekeepers' Association, **E. H. Mueller**, of H. J. Heintz Co., Pittsburgh, Pa., who appeared on the program; **Roy Grout** of Dadant and Sons, Hamilton, Illinois, who gave some helpful information on the beeswax situation; **Harold Clay**, Food Distribution Administration, Washington, D. C., and **M. J. Deyell**, Editor Gleanings, Medina, Ohio.

U. S. Honey Crop Report for July, 1943

United States Department of Agriculture, Bureau of Agricultural Economics
Washington, D. C.

The following letter comes from our old friend, S. A. Jones of the Bureau of Agricultural Economics:

Enclosed I send you a copy of our July honey production report, the first seasonal report for July issued since its discontinuance in 1925.

These reports are being resumed in response to repeated requests from the honey producers and because of the government's present need for information on the current statistical situation in this industry. These reports taken in conjunction with the Department's market reports on receipts, stocks, and prices of honey and beeswax will furnish the beekeepers with needed information comparable to that supplied to producers of grains, vegetables, fruits, livestock, poultry, and other farm products. In view of the importance of honeybees in the distribution of pollen, upon which full crops of important fruits, vegetables, and seeds are largely dependent, beekeepers are well deserving of this assistance.

These reports, to be issued in July, September, December, and February, will keep the industry informed of seasonal developments in each State and major geographic area. They will cover actual numbers of colonies on hand; average yields per colony; total production of honey and beeswax; condition of colonies and honey plants; proportion of comb, extracted and chunk honey produced; stocks of honey and beeswax held by producers for sale; average prices received by producers; total value of honey and beeswax produced and quantity and value sold. They will also cover other statistical items of current interest to beekeepers such as winter losses of colonies, spring increase, package bees, winter stores for bees and causes of losses of colonies.

The report here follows:

Although the size of the 1943 honey crop is still uncertain, according to July 1 reports from over 7500 beekeepers, the present outlook points toward a below-average crop. The unusually late spring throughout much of the country retarded production considerably. Production up to July 1 averaged only 15.5 pounds per hive compared with an average yield by that date of about 19 pounds. The number of bee colonies on July 1 is estimated at 4,925,000, about the same as a year ago.

In the Southeast, where about 75 per cent of the crop is usually made by July 1, the production promises to be close to 20,000,000 pounds, about a million pounds less than in 1942 and 1941, if yields during the later part of the season are average. Florida production will probably be close to the 8,250,000 pounds produced last year.

In most of the South Central area where about 60 per cent of the crop is usually gathered by July 1, the production has been much better than usual, particularly in the Gulf Coast States of this area and, if later yields are average, a total crop of about 22,000,000 pounds might be realized, compared with about 14,383,000 in 1942 and 17,516,000 in 1941.

In the North Atlantic and most of the Far Western States it is too early to anticipate the season's yield because less than half of the crop has been gathered. In the North Atlantic area, production to July 1 was only slightly below average. In the Far West it was slightly above average owing to the favorable early yield in California. If the later honey flow, which usually provides about 40 per cent of the State's crop should be average, a crop of about 25,000,000 or 26,000,000 pounds could be produced in California this year as compared with 20,250,000 last year and 22,910,000 in 1941. The Arizona crop of about 5,500,000 pounds now indicated would be about 500,000 pounds less than that of 1942.

In the North Central States, where usually about 40 per cent of the total United States honey crop is produced, the bees had a very unfavorable early season, frequent rains confining them to the hive during much of the period of early bloom. Ordinarily by July 1 from 25 to 30 per cent of the honey crop in this area has been made. The production this year was not more than half the usual yield to that date.

If the more favorable weather conditions of late June and the first 3 weeks of July in the North Central States continue the bees in that area may be able to build up colony strength and gather a good late crop from the clovers, alfalfa and other late blooms. But the summer and fall yields would have to be exceptionally good to compensate for the small early crop.

July 1 condition of nectar producing plants was reported at 84 per cent of normal, the same as the 10-year average condition for July 1. Plant condition was below average in the Southeast and in the Western Mountain States, and above the 10-year average in most States of other areas. While the condition of the plants is satisfactory there has been a substantial reduction in the acreage

of sweet clover, the most important honey plant of the North Central States. The big compensating gain in acreage of soybeans is a doubtful benefit to honey producers, as this legume has not yet demonstrated any particular value as a honey plant.

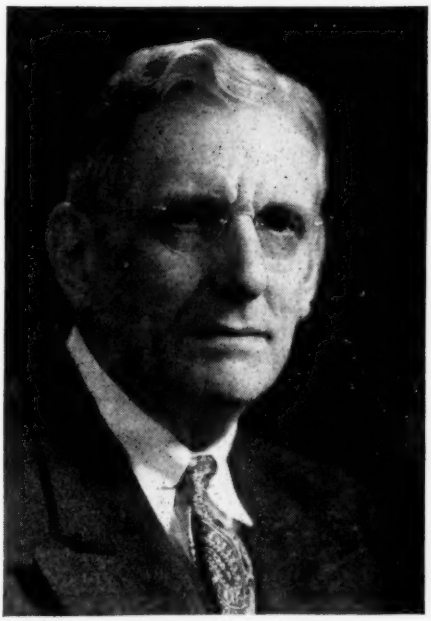
The condition of honeybee colonies was below average on July 1, being reported at 85 per cent of normal strength compared with a 10-year average July condition of 90. Colony condition was about average in the South Central, and the Pacific Coast States, but elsewhere it was mostly from 5 to 10 per cent lower than the 10-year average for July 1.

Efforts to increase the number of producing colonies this year failed. Owing to the country's need for more honey and beeswax, producers last year increased their colonies for the honey flow by 11 per cent, and further moderate increases during the summer were reported. But a very unfavorable season not only reduced the 1942 total honey production by 20 per cent below that of 1941 but left the bees short of honey for winter feed. This lack was only partly remedied by feeding them sugar syrup, owing to the shortage of sugar. The frequent rains and cold weather this spring were further handicaps, delaying the blooming dates of early plants and preventing the bees from gathering the usual supply of early pollen and nectar needed for rearing brood. As a result, the number of colonies for the country as a whole remained practically unchanged, a slight gain in the West North Central, South Central and Western Divisions being balanced by decreases in the North and South Atlantic and East North Central States.

The loss of colonies of bees during the winter and early spring of 1942-43 was 21 per cent, considerably heavier than the average loss of about 12 per cent over a period of years. The major part of the loss was due to starvation. There were the usual minor losses from poor or missing queens, exposure, pests, etc., but the bulk of the heavy losses resulted from shortage or inferior quality of winter and spring supplies of food. The winter loss of colonies was greatest, 31 per cent, in the West North Central and South Atlantic States, with 27 per cent loss in the North Atlantic and 25 per cent in the East North Central group. It was 14 per cent in the South Central and Far Western States.

Of the total colonies of bees on hand July 1, 19 per cent were new swarms secured this spring from package bees or from spring swarms or divisions. Owing to the heavy winter losses in the Northern States the largest percentage of spring replacement was in those States. The West North Central States reported 33 per cent, the North Atlantic 21 per cent and the East North Central 18 per cent of new colonies. The South Atlantic States reported 15 per cent, the South Central 14 per cent and the Far West 17 per cent of such new colonies. These increases, together with the small gain made in late colonies last summer, just about balanced the 21 per cent loss of colonies suffered last winter.

A. G. Ruggles Retires



The veteran state Entomologist of the University of Minnesota, Prof. A. G. Ruggles, has retired from active duty at the University but he will continue in an advisory capacity. In addition to teaching and research he has been active in conducting insect-control work. In 1930, Prof. Ruggles developed the state bee inspection work which has helped Minnesota. Congratulations, Prof. Ruggles, and good wishes for the future.

Talks to Beekeepers

Editor Deyell in one of his apiaries.

Always Learning Something

Since writing my last talk, I have made a trip to Wisconsin, Minnesota, and North Dakota, attending five state bee meetings.

On contacting hundreds of beekeepers I naturally learned a lot of things and got some new slants on beekeeping. In a report on the meetings found on another page of this issue, I shall refer to various speakers, giving the gist of their remarks.

Here is something interesting I learned: A North Dakota beekeeper who does considerable moving of apiaries related an interesting experience. It seems that after reading what appeared in Gleanings and other journals concerning moving of bees without the use of entrance screens, he decided to try it.

He got to the apiary early in the morning before the bees were flying well, smoked the entrances of the hives, then loaded the colonies onto the truck. Before he got started with the load he noticed some bees leaving the hives. As he drove along the road, more bees flew out of the hives. At one point, where he had to slow down considerably to turn a sharp corner, a considerable number of bees must have left the hives. According to his story, when he returned on the same road after delivering the bees, he noticed bees flying about. At that particular corner where he slowed down, a fair sized swarm was clustered on the fence.

Now, I am wondering if other commercial beekeepers, or those who have attempted to move small apiaries in the morning, have had similar experiences. I understand that large commercial beekeepers in California who practice migratory beekeeping do their moving at night. They load up the bees at dusk, after the fielders return to the hive, then travel all night and aim to reach destination early in the morning. This sounds like a sensible procedure.

Last spring, we moved a medium sized apiary in the morning. However, after getting started on the road a terrific rain storm came up and rain fell continuously enroute and after we reached the yard. As a matter of fact, we engaged a tractor to haul our truck of bees across a meadow to the new location. Obviously, bees would not leave their hives during such weather.

We would be glad to hear from those who have tried moving bees early in the morning, without using entrance screens.

Boraxo

In this month's installment of "One Man's Opinion", the writer refers to Boraxo for ridding the hands of propolis. I wish to add my experience.

During the years, I have tried practically everything that was recommended for removing propolis from the hands after working with bees. One evening, four or five years ago, I was about to appear at the dinner table with hands quite badly smeared up with propolis. My wife said: "You surely are not going to the table with such hands. Our guests will be shocked."

I said: "Well, I have tried my best to get my hands clean but apparently I haven't succeeded."

My wife reached on the pantry shelf and handed me a can of Boraxo, which, by the way, is available in any grocery store. I read directions which said to dampen the hands with warm water, shake some of the preparation onto the hands, then rub well. I did this and in less time than it takes to tell it, my hands were perfectly clean and soft, like hands of a movie star. Try Boraxo and be convinced.

Why Bees Do Not Store Surplus

We have been receiving letters from over the country asking why bees do not work in supers this sea-

son. Such conditions do not prevail in all areas.

Apparently, some beekeepers think that all they have to do is put on supers and that these supers will be filled, regardless of wheather conditions. I have tried to tell such beekeepers that, as a rule, populous colonies of bees with ample storage space, which means supers, on the hives will store honey if nectar plants are plentiful and the weather and soil conditions are favorable for nectar secretion.

As stated editorially in the August Gleanings, there is more or less mystery surrounding nectar. One of the best honey flows I ever saw occurred during a very dry year when the pastures and meadows were almost brown. The one plant that survived the hot, dry weather was alfalfa. It so happened that farmers in that particular area grew an abundance of alfalfa that season. Weather conditions were just right for the bees to work it and they certainly did "go to town". An apiary of 75 colonies averaged 231 pounds per colony. Some of the colonies put up over 400 pounds surplus. That honey flow occurred in Western Ohio, during one of the drouth years.

This season, thus far, the abnormally wet weather has apparently interfered with nectar secretion. It seems reasonable to assume that the moisture in the air tends to reduce the sugar content of nectar in honey plants, thus making them less attractive to bees.

That same season I asked a beekeeper what he thought bees were getting nectar from. He said he thought they must be getting it from fence posts as he was unable to find the bees concentrating on any bloom in that area, and so we will have to admit that at times it is difficult to determine the source of nectar. More investigational work needs to be done along this line.

There Should Be a Good Fall Honey Flow

After all the rain that has fallen in this area, there should be nectar this fall if the weather turns dry and continues to be reasonably warm. Nectar plants, such as goldenrod and aster, are growing luxuriantly.

Those who keep bees in areas that were not favored with a good honey flow from clovers and are fortunate enough to have fall honey plants will appreciate a fall flow even though the honey may be somewhat darker in color than honey stored earlier in the season. This year honey will be honey, regardless of color.

I have sold honey from my home for quite a number of years and I have some customers who want dark, or amber-colored honey. For example, they say that goldenrod honey has the color and the flavor they like. These same people say that clover honey is rather insipid, something like sugar syrup. These customers want honey with a decided tang.

During the fall of 1941, our bees gathered some of the best goldenrod honey I have ever tasted. It was a light amber color, thick bodied, with an excellent flavor.

By the way, it is advisable to get the light-colored honey off the hives before the dark honey begins to come in.

Apiary Management During September

This is a wonderful month, one of the favorite months of the year. Those who observe bees closely will detect a slightly different behavior during this month as cooler weather approaches. It would seem that the bees realize that winter is approaching and that it behooves them to store more honey in the brood chamber and less in the supers.

Unless there happens to be a rapid honey flow on, bees, as a rule, do not fly out after nectar so frantically as they do in the spring. They work along during the day, apparently conscious of approaching cold weather. Even the behavior of the bees at the hive entrance and while they are flying through the air, as well as their hum, appears to be somewhat different than earlier in the season. Perhaps this is my imagination but I believe I am right.

During the cool nights of September, bees are not likely to store surplus in supers unless, as already intimated, there is a heavy honey flow on. In some regions where fall plants are abundant a major honey flow may occur during September. In such regions it is important that each colony has the required number of supers to hold the crop. In some regions, swarming may occur in September, where colonies become congested due to lack of comb space.

A Good Month to Check Apiaries

During the fall flow when bees are

(Continued on page 569)

Buy and Sell Here

CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate. 8 cts. per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month preceding.

HONEY FOR SALE

NEW CROP white honey in new sixties. D. R. Townsend, Northstar, Mich.

FOR SALE—White clover honey, in glass. Size to suit you. Angus Carruthers, Route 2, Syracuse, N. Y.

HONEY FOR SALE—We buy and sell all kinds, any quantity. H. & S. Honey & Wax Co., Inc., 265-267 Greenwich St., New York.

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. The Hubbard Apiaries, Onsted, Michigan.

HEAVY FANCY white comb, $6.00 to $7.00 case; Mim. 12 oz., $5.50 to $6.50; No. 1 clover, $5.25 to $6.25; Mixed, $6.00. C. B. Howard, Geneva, N. Y.

TOWNSEND SALES COMPANY, E. D. Townsend. Northstar, Michigan, buy and sell Michigan clover honey. Write if you have honey to sell, or want to buy some of this fine honey. Address TOWNSEND SALES COMPANY, Northstar, Michigan.

FOR SALE

QUEENBEE PAINTING outfits, $1.00; hive cards, 10-15c, postpaid. Southwick Apiaries, Waban, Massachusetts.

YOUR WAX worked into quality medium brood foundation for 16c a lb.; 100 lbs., $12.00. Fred Peterson, Alden, Iowa.

COMB FOUNDATION at money-saving prices. Wax worked at lowest rates. Comb and cappings rendered. Robinson's Wax Works, Mayville, N. Y.

WRITE FOR CATALOG. Quality bee supplies at factory store prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Bee Supplies, Onsted, Michigan.

SAVE MONEY by letting us work your wax into wired regular comb foundation. Large catalog describes everything. You pay only wholesale factory prices as we have no agents. Walter T. Kelley Co., Paducah, Kentucky.

GET YOUR DRAWINGS and construction detail NOW for proven trade BRADSHAW DEMOUNTABLE UNCAPPING PRESS. No more headaches, simple to build yourself. Won't rustout, last lifetime. Producers report it greatest improvement fifty years. No heat required, will not darken honey. Adaptable any size outfit. Send $2.00 today for PLANS to Bradshaw & Sons, Wendell, Idaho.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We cannot guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on C. O. D. terms except where the buyer has thoroughly established his credit with the seller.

WE PAY CASH for extracted clover honey. Fair-Field Honey Company, Millersport, Ohio.

HONEY WANTED—State kind, quality, amount. Ellsworth Meineke, Arlington Heights, Ill.

WANTED TO BUY, comb, chunk, and extracted honey, any amount. Lose Bros., 206 E. Jefferson, Louisville, Ky.

WANTED light and dark honey. State price and send sample. C. W. Yergey, 429 Lincoln Ave., Pottstown, Pa.

WANTED—Honey and beeswax. Mail samples, state quantity and price. Bryant & Cookinham, Inc., Los Angeles, Calif.

HIGHEST cash return made the day we receive your beeswax. Write for shipping tags and quotations. Walter T. Kelley Co., Paducah, Kentucky.

COMB HONEY WANTED. State size section, how packed and the quantity you have. Frank H. Hauck, P. O. Box 84, Kew Gardens, New York.

WANTED—All grades of comb and extracted honey. Bee supplies and honey containers for sale. Prairie View Honey Co., 12243 12th St., Detroit, Mich.

WANTED—White or light amber extracted honey, truck lots to a carload. Send sample with price offered. Bee-Kist Products Co., San Antonio, Texas.

WANTED—White clover and light amber honey. Any amount. Cash at time of delivery. Clover Blossom Honey Co., 975 Berkley Road, Columbus, Ohio.

WANTED—We pay cash top price for clover honey in 60-lb. tins. Any quantity. Send samples and best prices. Cloverdale Apiaries, F. M. Babcock, Fredonia, N. Y.

WANTED—White clover chunk honey in shallow frames and extracted in sixties. State amount and price wanted in first letter. KEDASH BROTHERS, Chillicothe, Ohio.

HONEY WANTED—All Grades and Varieties. Highest Cash Price Paid. Mail Sample. State Quantity. HAMILTON & COMPANY, 1360 Produce Street, Los Angeles, Calif.

WANTED white or light amber extracted honey from 1000 lbs. to a carload. Cash waiting. Send sample and best price to Honeymoon Products Co., 39 E. Henry St., River Rouge, Mich.

HONEY WANTED—Buying all grades. Clover, light amber, basswood, raspberry; also southern honey, palmetto, orange, tupelo, gallberry. Will furnish cans and shipping cases if needed. J. Wolosevich, 6315 So. Damen Ave., Chicago, Illinois.

HONEY AND WAX WANTED. All grades. Any Quantity. Send samples and your best cash price. We carry large stock of Tin and Glass honey containers. ALEXANDER COMPANY, 819 Reynolds Rd., TOLEDO, OHIO.

BEES AND QUEENS FOR SALE

BRIGHT ITALIAN AMERICAN QUEENS, 75c each, any number. D. W. HOWELL, Shellman, Georgia.

CARNIOLAN QUEENS. A few for immediate delivery at 70c each. C. B. Eppling, R. 2, Covington, Va.

NORTHERN-BRED Queens. Hardy, honey-producing Italians. 75 cents each. Shirl Baker, Rodney, Michigan.

CAUCASIANS — Untested queens, .75c each. Safe arrival. Prompt shipment. Lewis & Tillery Bee Co., Greenville, Ala.

IMPROVED ITALIAN queens, 75c; from a strain that produced over 600 lbs. of honey per colony. Henry Loehr, Caldwell, Tex.

110 two-story hives bees with all needed equipment, honey house, etc. Guaranteed free from disease. Appeldoorn, Hamler, Ohio.

FOR SALE — 80 10 - frame hives, 95% Three-ply combs. Nice equipment. No disease now or ever. Chas. C. Allen, R. 4, Staunton, Va.

GOLDEN ITALIAN queens, extra fine quality. Select Untested, 90c each any number. Carolina Bee Farm, W. O. Curtis, Mgr., Graham, N. C.

GOLDEN QUEENS — Excellent quality; gentle, productive; health certificate. Satisfaction guaranteed; 75c. O. E. Brown, Rt. 1, Asheboro, North Carolina.

FOR SALE—24 colonies, disease free, in 10-frame hives; 65 shallow supers; 4-frame honey extractor; miscellaneous equipment. James Milligan, Fort Gage, Ill.

FOR SALE—55 colonies bees including 1943 honey crop located near Flemington, N. J. Certificate of inspection furnished. Address T. Tymoff, 256 E. 37th St., Brooklyn, N. Y.

PACKAGE BEES AND QUEENS. Hustling Italian stock. Prompt and reliable service. Reasonably priced. Write for circular. Crenshaw County Apiaries, Rutledge, Ala., U. S. A.

PACKAGE BEES AND QUEENS. 3-band Italians, prompt service and satisfaction. Unt. queens, 65c each. Tested queens, $1.30 each. 3 lb. pkg. with queen, $3.65. John A. Norman, Ramer, Ala.

THREE - BANDED Italian queens, fine honey-gatherers and gentle to work with. Select untested, 80c each any number. A health certificate with every order. Alamance Bee Company, Geo. E. Curtis, Mgr., Graham, N. C.

FOR SALE—Because of my age I will sell not later than November 1st, 1100 ten-frame colonies of clean bees with plenty of equipment; extractor, truck, honey house, and good clover locations. If interested see H. T. Bickley, Deloit, Iowa, and write T. W. Burleson, Waxahachie, Texas.

COMPLETE HONEY PRODUCING OUTFIT in Minnesota. Modern extracting plant and warehouse in town and in the clover section. Standard ten-frame equipment throughout. We would prefer to sell as a unit — warehouse, extracting equipment, and all the bees complete, but would consider selling in part. Certificate of inspection at time of sale. This is the right opportunity for any one who wants a modern commercial honey producing business already in operation and ready to go. For full details, write Box 3, care Gleanings in Bee Culture, Medina, Ohio.

HONEY WANTED

Carloads and less, all grades.
Will pay top prices.
Would contract now for crop.
Also Beeswax.

H. & S. HONEY & WAX COMPANY, Inc.
265 Greenwich Street, New York, N. Y.

COMB HONEY WANTED!

Advise quantity, grade, size section, and how packed.

FRANK H. HAUCK
P. O. Box 84, Kew Gardens, N. Y.
Bank references furnished on request

CASH BUYERS OF HONEY
Carload or Less

B-Z-B Honey Company
Alhambra, Calif.
(Los Angeles County)

WANTED--Extracted Honey All Varieties
Send samples and delivered prices to
JEWETT & SHERMAN COMPANY
Cleveland, Kansas City and Brooklyn

WANTED

All Grades

HONEY

and BEESWAX

We pay the top ceiling prices and you get ALL YOUR MONEY IMMEDIATELY. Get in touch with us before you sell. Cans furnished if you want them.

Edward T. Cary
Midland Ave. and Tallman St.
SYRACUSE, NEW YORK
Packers and distributors of
HONEY since 1925

CAUCASIANS

Extra gentle, prolific, long tongue, little inclined to swarm, dependable workers — 10% to 40% ahead of average Italians. Foundation stock from mountainous regions of Terek, Caucasus.

CARNIOLANS

Build up rapidly even during unfavorable springs. Prolific at all times, very gentle, best of workers. 32nd year with them. September is a good month to replace old failing or otherwise undesirable queens.

Prices: Untested queens, 1 to 5, 60c each; 6 or more 75c each. Tested $1.50 each. By Air Mail 5c extra per queen.

ALBERT G. HANN, Glen Gardner, New Jersey

New York Beekeepers

The field is full of honey buyers. It's definitely a seller's market and a chance to get out of debt and build for the future. Do some serious thinking now. Tomorrow may be too late. Buyers will be critical then. Seek a permanent outlet which you yourself control. See what a Cooperative can do to build for post war market. It's equipped to do a big job. We need millions of pounds of honey to do it. The bonded warehouse assures a cash advance on delivery. It's your opportunity. The time is right. Ask for further information.

Finger Lakes Honey Producers Cooperative, Inc.

Groton, New York

QUEENS!

THREE-BAND ITALIAN

Daughters of queens bred for Resistance

The remainder of the season will be devoted to supplying you with the best queens possible, from either of the above strains.

For 20 years I have pleased the most exacting customers, and I believe I can do as much for you.

Prices either strain

1 to 24	$.75
25 to 99	.70
100 to 499	.65

Clipped free upon request.

A. E. SHAW, Shannon, Miss.

MISCELLANEOUS WANTED

WANTED — Dove - tailing machine for making bee hives. A. E. Shaw, Shannon, Miss.

WANTED — Beekeeping location with buildings near small town—Illinois, Wisconsin. Also want equipment. Address, Postoffice Box 454, Chicago 90, Illinois.

HELP WANTED

COMMERCIAL PRODUCER and state inspector wishes work in South for winter months. Will take packages as part payment. 679 Sheridan Drive, Muskegon, Mich.

WANTED—Experienced man, married or single, in queen, package, and honey production. Year around work. Give full particulars when replying. Al Winn, Rt. 1, Petaluma, Calif.

MAGAZINES

THE INDIAN BEE JOURNAL—The only bee journal in India. Sample copy free Yearly, 7c6d. Apply Editor, Indian Bee Journal, Jeolikote, Dist. Nainital, U. P., India.

READ the South African Bee Journal to be conversant with conditions from far afield. Subscription 5/ per year. For further particulars, write to the Hon. Treasurer, P. O. Box 43, Cleveland, Johannesburg, S. Africa.

WESTERN CANADA BEEKEEPER, official organ of the Manitoba Beekeepers' Association, one year, $1.00; in combination with one year's subscription to Gleanings in Bee Culture, $1.60. Wallingford Building, Winnipeg, Canada.

MANY BEEKEEPERS have proven raising fox, mink, nutria, muskrats, rabbits, highly profitable. Send dime for sample copy. Canada's oldest fur farming magazine telling how. Fur Trade Journal of Canada, Box 31, Toronto, 2, Ontario.

DO YOU FIND it difficult to secure information about sheep and sheep ranching methods? The SHEEP AND GOAT RAISER reaches more sheepmen with more information on range sheep than any other magazine published. Subscription, $1.50. Hotel Cactus, San Angelo, Texas.

THE BEE WORLD—The leading Journal in Great Britian and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy post free, 12 cents stamps. Membership in the Club, including a subscription to the paper 10/6. The Apis Club. L. Illingsworth. The Way's End. Foxton, Royston, Herts, England.

HONEY WANTED

White and light amber.
Any amount. Top price paid.

BA-BEE BRAND FOODS
740 No. Washington
MINNEAPOLIS, MINN.

BUY U. S. WAR BONDS AND STAMPS

TEN MILLION POUNDS OF HONEY WANTED

A BRIDE OF EIGHTEEN. . . .

will walk thousands of miles in preparing the meals during an average lifetime. We forget just exactly how many, but some fellow with a flair for figures worked it all out.

It surely is startling the way those statistical sharks find out the facts of love, life, and business. They seem to have the answers for anything you want to know.

One of them told us that the reason we have those slow-motion movies was because a picture producer watched two Scotchmen in a restaurant reaching for the dinner check.

For example, neither you nor we could be accused of being slow in our thinking if we come to the conclusion that the future of the honey industry after the war is won rests with the consumer. Why not sell your crop of honey to an organization that has the future welfare of the honey industry at heart?

We will be only too happy to buy your crop of honey for CASH at ceiling prices. If you need any sixty-pound cans, or cases, to ship it in just say the word. We will be very glad to supply whatever you need.

Here's a smiling beginning for both of us. Please mail the coupon below, which does not obligate you in any way.

C. W. AEPPLER COMPANY

Oconomowoc, Wisconsin

C. W. Aeppler Co., Dept. G-9
Oconomowoc, Wis.

I operate ..... colonies of bees.

I estimate my crop of honey at ..... Pounds.

Name .....

R. R. or Street No. .....

City ..... State .....

THE BIGGEST INDUCEMENT WE OFFER IS LOYALTY

THIS year, eager offers to buy your honey come to you thick and fast.

All this is flattering. But it does present a problem. It puts it squarely up to you to decide where the selling of your honey this season will do you the most permanent good.

We go light on promises but heavy on performance

Here at Paton we consider the friendly relationship and spirit of live-and-let-live that exists between ourselves and our veteran honey suppliers one of our chief assets.

In return for their fine support, we accord these beekeeper friends a loyalty through lean years and fat which they will tell you has a definite dollars-and-cents value over the long haul.

It is this kind of loyalty which we hold out to you as our biggest inducement why you, too, should let us have now as much of your current honey as you can.

This 25-year-old business can protect your future, too

For a quarter century, we have specialized in the marketing of choice honey. Over these years, we have invested literally hundreds of thousands of dollars in advertising to widen honey's uses. Our famous brand, GOLDEN BLOSSOM HONEY, dominates a great national sales area.

All this is important to you only as it indicates that our market is a real market, a permanent market, a growing market, a market that is your best assurance of continued good honey sales and prices long after today's sugar-shortage honey boom is past.

We thank our old friends ...and invite new ones

In this season when such pressure is on our old beekeeper friends to switch their allegiance, we consider ourselves unusually fortunate. These old friends have stood fast. They are shipping us all the honey they can. For this we here publicly extend our sincerest thanks.

But we still can use more honey to supply the legitimate needs of our old . . . not new . . . customers. In this emergency, can you help us out?

If you will ship us a generous amount of your honey, we promise you not to forget the favor. We will pay you top ceiling prices now and pledge you our loyalty through coming seasons.

If this opportunity for a mutually-profitable long-time friendship interests you, we urge that you ship us your honey samples right away.***

***Send us samples now*

Please rush us your honey samples as soon as your crop is ready. We pay top ceiling prices... in cash. We prefer carload lots, but from nearby points, will accept lesser amounts. Prices effective at shipping points. Cans returned in accordance with OPA Order No. 275, if desired.

THE JOHN G. PATON COMPANY, INCORPORATED

630 FIFTH AVENUE, NEW YORK 20, N. Y.

HoneyProducers:

FROM PRESENT INDICATIONS there will be a big demand for PACKAGE BEES next year.

Already we have had several requesting that their orders be booked for 1944. At this time we have not arranged prices, but will try to have them released by Dec. 1st. In the meantime we will be glad to file your order subject to your approval when the price is released.

We are working to have additional colonies and queen-rearing equipment as well as supplies to handle the much increased volume of business we anticipate.

Delivering your order on time and of quality PACKAGE BEES is our business. You can help us by giving us an early estimate of your needs and the date desired. You are under no obligations in doing this and it will be of great value in making arrangements for spring delivery.

"THEY SATISFY"

Do we have your name and present address?

Rossman & Long

Box 133 **Moultrie, Ga.**

Pettit's Bees and Queens

We are able to give prompt mailing of best young three-banded queens through September only.

Eighty cents each, or $1.00 Canadian money sent to M. Pettit, Georgetown, Ont., pays all charges. Write for quantity prices.

Orders for hundreds of packages already booked. Subject to standard prices to be quoted before New Years.

We shipped 50% more bees in 43 than in 42. We refused more orders than we filled. Why not book orders before all best dates are taken?

Morley Pettit

Tifton, Georgia, U. S. A.

QUEENS!

Italians or Caucasians

BE SURE AND REQUEEN THIS SUMMER OR EARLY FALL. IT HELPS INSURE A BETTER CROP AND LESS SWARMING NEXT SEASON.

PRICES (Mated)

Lots of	
1 to 24	$ .75
25 to 99	.70
100 to 499	.65

Tested Queen—Double price of Untested
Clipped or by Air Mail at no extra cost

THE STOVER APIARIES

Mayhew, Miss.

The Fred W. Muth Company, Inc.

Cincinnati, Ohio

1858 - 1943

3 GENERATIONS — 85 YEARS. THE RECORD OF MUTH IN THE HONEY BUSINESS. THROUGH THIS PERIOD **OVER A MILLION DOLLARS** has been spent by MUTH in developing and advertising honey.

The amount of good in development to the honey industry is beyond estimation. Throughout these years a policy of fair dealing and remittance "upon receipt of shipment" has been maintained.

This year, as always, we are in the market to buy your honey. A fair maximum price has been named by the OPA which MUTH CO. will adhere to. The following is an extract from the latest OPA ruling on bulk honey prices to producers.

MPR-275 (Amdt. 5. June 17, 1943)
6. Section 1351.1319 (b) is amended to read as follows: (b) Maximum prices for "bulk honey"—(1) Producer sales. The maximum price, f. o. b. "producer's local shipping point" for bulk honey which is United States Grade * B or better when sold by the producer thereof in containers, shall be 12c per pound; Provided, That where the purchaser furnishes, exchanges, or returns a container the price shall be 11½c per pound, and the cost, if any, of transporting the container back to the producer shall be paid by the purchaser. In order to receive the prices established by this subparagraph (1) the producer must furnish the case or shipping carton where such is necessary for the protection of the container while in transit. If the purchaser furnishes the shipping case or carton, the price herein established must be reduced to the extent of the value of such shipping case or carton.

(*) Extracted honey is "United States Grade B" if it meets the standards for "U. S. Grade B" as set forth in the circular "U. S. Standards for Grades of Extracted Honey (effective March 15, 1943)" issued by the U. S. Dept. of Agriculture. Honey which met these standards was formerly designated in the regulation as U. S. No. 1.

In short, 12c per pound at your station when you furnish containers; 11½c per pound when we furnish containers. We invite your shipments of honey and ask that you write us what you have to offer.

BEE SUPPLIES — We still have some "hard to get" supplies such as wire queen excluders, smokers, bee escapes and all the wood supplies you need. Turn some of your "honey money" into needed supplies because next season, supplies may be next to impossible to buy. Write for price list if you didn't receive one earlier this year.

THE FRED W. MUTH COMPANY, INC.

229 Walnut Street CINCINNATI, 2, OHIO

Over 350 Uses for BEESWAX

IN WARTIME INDUSTRY

Spurred by wartime needs, research in medicine and industry has opened up many new uses for beeswax. These form the basis, not only for substantial present-day demand, but also for a permanent and ever-widening peacetime market in which every beekeeper can share.

As an important supplier of waxes and wax blends, we have watched this trend and indeed become part of it. Many recent products are convincing indications of what the future promises. It is our privilege to contribute, in some measure, to their development.

That is why we now seek to make contacts with as many beekeepers as possible. That is why we are confident that we can establish permanent and mutually profitable relations with you. That is why we now come forward with the most startling buying plan that has ever been presented to beekeepers.

You owe it to yourself to become familiar with our "advance-against-crop" purchasing plan. You owe it to yourself to learn how you can have CASH now against your 1943 production. The simple details of this offer are yours for the asking. Simply fill in and mail the attached coupon and the return mail will bring you full details.

DISTRIBUTING & TRADING CO.

444 Madison Ave.
New York 22, N. Y.

MAIL THIS COUPON TODAY

Please send me your folder and full details about your Advance-Against-Crop Purchasing Plan.

Name .....

Address .....

City ..... State .....

SELL your HONEY Where Highest

AND HELP BEEKEEPERS

If you have honey in large quantities or small—in carload lots or just a few cans—write, wire or phone T. W. Burleson & Son direct. We want to know you personally—we want you to know us. Send samples of the honey you have for sale and state or estimate the amount you have or will have available. We will send complete details of our guarantee and quote you highest prices for your honey. If desired, your cans will be returned in accordance with O.P.A. Order No. 275.

WHAT

T. W. Burleson

on Your Contract for Honey Means

- It is your guarantee that you will get the highest possible legal cash price for your honey.
- It is your guarantee that you will get a square deal this year, next year and every year thereafter that you choose to trade with Burleson's.
- It is your assurance that you are helping to maintain the gains that the honey industry has made in recent years.
- It is your assurance that your honey is moving to market in a manner that will best protect the future of the honey business.
- It is your assurance that you have a friendly, loyal organization working with you that will stand by you during the lean years as well as the fat years.

T.W. BURLESON & SON

You Get the Cash Price!

BUILD A SOUND FUTURE FOR *The* HONEY BUSINESS!

BURLESON GUARANTEES HIGHEST LEGAL PRICE!

We know that every pound of honey you produce this year should bring the highest legal price and so do you—but we are going a step farther and make *sure* that you get the highest legal price if you sell your honey to Burleson's. We have carefully studied the types of honey contracts and other methods of purchasing that are being used under present regulations and can guarantee to pay you the highest possible legal price for your honey. A special Burleson guarantee bond that will insure your getting the highest legal price irrespective of changes that may occur and backed by the resources of one of America's largest honey packers will be furnished to every honey producer who signs a contract with Burleson. Today the honey industry, due to the shortage of sweets, faces a crisis that can be met only if you, the honey producers of America who know the business, wholeheartedly support T. W. Burleson & Son and other loyal and established friends of the industry by offering Burleson and such companies every pound of honey you have. In the past when the going has been tough and your honey has been hard to move Burleson's have kept right on plugging and have spent thousands of dollars to help maintain the higher prices and pass on the extra profits to you. Yes, even when some large honey organizations and companies were flooding the market at rock-bottom prices and driving the profit out of the honey business. And we know that although prosperous times are here today, the fight to maintain profitable honey prices will be with us again in a few years. Your best investment in the future of your business today is to sell your honey to producer-packers who have proved to be your friends, have stuck by you year after year, and have always paid off in cash. Your loyal support now will insure holding to the greatest extent the gains that the honey industry has made during the past few years and will mean extra cash in your pocket from your honey crops for years to come. For the greatest profit for you this year and for the future of your business—send samples to T. W. Burleson & Son and obtain full details of Burleson's guarantee that will get the highest legal price for your honey.

PACKERS OF BURLESON AND LONE STAR BRAND HONEY

WAXAHACHIE, ESTABLISHED 1909 **TEXAS**

Mack's Queens!

(They Speak for Themselves)

Will have several more of these Big Hardy Northern-bred queens for September delivery. Fully guaranteed in every respect. $1.00 each; 10 or more, 90c each.

Herman McConnell

(The Bee & Honey Man)

Robinson Rte 2 Illinois

CAUCASIAN QUEENS

We are booked to our capacity of shipping for September. Thanks for your orders.

BOLLING BEE CO.
Bolling, Ala.

ITALIAN QUEENS

Northern bred for business and requeening. Safe arrival. 46 years breeding experience. Untested .65; select .75, balance of season.

I. F. MILLER
183 Valley St., Brookville, Pa.

Northern-bred Italian Queens

My Northern-bred Italian Queens will help win this war for freedom. All queen sales will be put into war bonds. Will accept war stamps for queens. I served overseas in 1918 and 1919. I am charter member of V. F. W.

Price of Queens, 75c each.
KEEP THEM FLYING.
WEST BRANCH APIARIES, Grover Hill, O.

American Honey Institute New Notes

National Honey Week will be celebrated October 24 to 31.

• • •

Parents Magazine, with a circulation of 600,000 in the July issue features a Honey Egg Nog and writes, "Children enjoy a hot honey egg nog on rainy summer days."

• • •

Good Housekeeping, July issue, lists recipes using honey in its articles, "Ice Cream for these Times" and "Eat 'Em Raw."

• • •

The American Honey Institute is very much pleased with the way honey producers are voluntarily increasing their contributions.

• • •

The Atlanta Journal features Coffee Nut Cakes and Honey Meringue.

• • •

Among the favorite war time recipes of the Homemakers' Group at Washington, D. C., are many honey recipes, among which is the uncooked honey icing.

• • •

An attractive and practical recipe book, entitled "What's Cookin!", has been issued by Burnett Extract Company. Among the many recipes that call for Honey is one for Honey Ice Cream.

• • •

Many schools are now in session. Will you help us to get a copy of "Old Favorite Honey Recipes" or the Lunchbox Leaflet in every home? The leaflets are sixty cents per hundred.

• • •

It will be necessary to soon have another printing of "Old Favorite Honey Recipes". The price may be higher. It might be well for those who need books soon to order now.

Look for This Sign
QUALITY at LOW COST
When You Want

KELLEY—"The Bee Man"

QUEENS!

100 queens daily. Three-banded Italians. Reared on our bee farm and shipped daily from Paducah.

1 to 24	**$ .75 each**
25 to 99	**.70 each**
100 and up	**.65 each**

We will accept beeswax in trade at the highest ceiling prices.

The Walter T. Kelley Co., Paducah, Ky.

Manufacturers of Bee Supplies

ARE YOU KEEPING UP . . .

with the latest developments in your field? Here's a group of magazines that specialize in a particular subject! You'll be interested in at least one of these magazines. . and you have the assurance that the articles are written by people who know. Send in your subscription today!

Bee Magazines
- Gleanings in Bee Culture, $1. per year
- Beekeepers' Item, $1.
- American Bee Journal, $1.
- Beekeepers Magazine, $1.

Farming
- The Country Book, quarterly, $1.
- American Farm Youth, 75c
- Fletcher's Farming, 50c

Goats
- American Dairy Goat News, $1.
- Goat World, $2.

Livestock
- The Cattleman, $1.
- American Cattle Producer, $1.
- Florida Cattleman, $1.
- National Live Stock Producer, 50c
- Texas Live Stock Journal, $1.
- Eastern Breeder, $2. (8 months $1.)
- Hog Breeder (all breeds) $1.
- Sheep (and Karakul) Breeder, $1.
- The Sheepman, $1.
- New Mexico Stockman, $1.
- Dairyland News, s. m., 50c
- Dairyman's Journal, 35c
- Hoofs & Horns (rodeos, west) $1.
- National (Saddle) Horseman, $5.

Pigeons
- American Pigeon Journal, squab-fancy, $1.50
- Pigeon News, fancy only, $1.50

Poultry
- Cackle & Crow, the Poultrypaper, $1.
- Pacific Poultryman, 50c
- Florida Poultryman, 50c
- New Hampshire Breeder, quarterly, 3 yrs. $1.
- Bantam Magazine. $1.
- Northeastern Poultryman, 24 issues, 2 years. $1.

Rabbits
- Small Stock, (rabbits, cavies exclusively) $1.
- American Rabbit Journal, $1.

Other Specialties
- Dairy Farmers Digest, $1.
- Eastern Fruit Grower, $1.
- The Soybean Digest, $1.50
- New Agriculture (sugar beets only) $2.
- American Fur Breeder, (mink, etc.) $1.
- Small Commercial Animals & Fowls, 50c
- Co-operative (Farmers) Digest, $2.

All magazines are monthlies unless otherwise noted; prices are for one full year. Satisfaction guaranteed. All orders are handled promptly and acknowledged. Rush your subscriptions today. Remit in any way convenient to you.

MAGAZINE MART

Dept. GB P. O. Box 1288, Atlanta, 1, Ga.

Sample copies at single copy prices.

TAKE THE TERROR OUT OF BEEKEEPING

To get quick relief from burning and swelling due to beestings, mosquito bites, chiggers, and ticks, also athlete's foot and ivy poisioning, Pheno-Isolin is ideal.

$1.00 Druggists.

FORCE CO., Scranton, Pa.

FOR SALE

Fifteen years of Gleanings and American Bee Journal, also 15 bee books. Will take honey in trade.

C. SMOLA
3824 East 127 St., Cleveland, Ohio

Plenty of Quality - Bred Three - Banded Italian Queens.

1 to 100, ... $ .65 Each
100 up, ... .50 Each

FARRIS HOMAN
Shannon, Miss.

BEEKEEPERS ITEM

Serving the beekeeping industry for a quarter century without bais or prejudice. "The forum for the thoughtful" One year $1.00; two years, $1.50; sample copy, 3c stamp.
With Gleanings it provides a combination that covers the beekeeping field.

Both magazines for one year, $1.75

BEEKEEPERS ITEM
P. O. Box 687 San Antonio, Texas

THE BEEKEEPERS MAGAZINE
$1.00 a Year

Is the new rapidly growing bee journal. Established 1938. It is now one of the three leading beekeeping publications.
Single copy current issue, 10c.
Combined with Gleanings in Bee Culture, it makes the Perfect Pair. Both magazines, one year, $1.75.

THE BEEKEEPERS MAGAZINE
3110 Piper Rd. Rt. 5, Lansing, Mich.

Australian Beekeeping News
The Leading Bee Journal of the Southern Hemisphere is the

"Australasian Beekeeper"

Subscription 5 shillings per year. Start any time. Inquire for International Money Order for 5 shillings (Australian) at your Post Office.
Write now to the Editor. P. O. Box 20.
West Maitland New South Wales
Australia

Wanted Amber Extracted Honey

Send Samples and best price Frt. Paid to Cincinnati, O.

THE FRED. W. MUTH CO.

TOO LATE TO CLASSIFY

WANT 200 colonies bees on share basis for next season. Robert Banker, Cannon Falls. Minn.

FOR SALE—400 colonies and all equipment in standard ten-frame dovetailed hives with metal covers and two-story brood chambers. Bees free from disease. Equipment first class. Selling on account of health. H. W. Mandle, Ney, Ohio.

WANTED—Used galvanized honey tank with gate, of 60-gallon or larger capacity. Emmer E. Lampert, Neenah, Wisc.

FOR SALE—1000 cases used 60's, just emptied. Good condition, at 50 cents. Comb and extracted honey wanted. Bizzy Bee Ranch, North Abington, Mass.

WANTED—Man to work balance of season. Fred D. Lamkin, Union Springs, N. Y.

COMMERCIAL HONEY EXTRACTING

(Continued from page 524)

settled and strained, thousands of pounds pass through the muslin filter before it needs attention.

To reduce labor and muss, honey from the melter and the turntable comb rack is piped directly to the skimming sump. Electricity is used for power and steam is furnished by a small vertical boiler located outside the extracting room. The boiler is fired with coal. The boiler being away from the extracting outfit reduces heat in the extracting room. An improvised fan located in a window just beyond the operators provides additional comfort. Robins says an extracting room should be warm for proper extracting but believes the operators should be as comfortable as possible, and more work will be accomplished at the day's end with a larger amount of honey in the tanks.

Necessary precautions are observed to reduce comb damage through proper extractor speeds, and increases wax production by uncapping deeper than usual.

A study of the accompanying pictures will reveal the many advantages this extracting outfit provides at a minimum of cost. The outfit is semi-permanent and could be easily moved, should the ever-changing conditions affecting beekeeping make a change of location necessary which it so often does.

Much of the tedium is relieved and much of the muss and cuss removed from extracting by the Robins method. Maybe it would fit your needs.

Pleasant Plains, Ills.

Wanted
10,000 Fighting $$$$$$

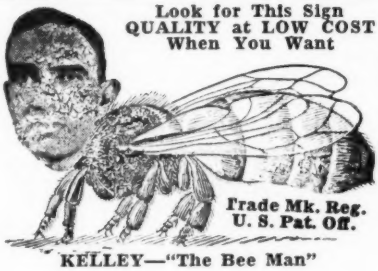
Yes! we want every beekeeper, big and small, to join up in this publicity campaign for honey. Wonderful advances have been made already. The Director of the Institute has contacted many of the largest users of honey. Honey is receiving valuable publicity in numerous ways. We must keep advancing.

WE NEED YOU AS A VOLUNTEER

Send your contribution today to:

American Honey Institute

MADISON, 3, WISC.



KELLEY—"The Bee Man"

Glass - Tin

16 oz. Economy Jars, carton 24 each, $0.85
5 lb Economy Jars, 12 cartons 5.00
24 cartons 9.95
60 lb. Square tin cans, carton of 16 5.40
Quick shipment from large Paducah stock.
Write for summer cicular.

Buy Now!

Right now is the time for you to purchase your bee hives for 1944. We have on hand a nice stock of wooden goods and make prompt shipment of your orders.

THE WALTER T. KELLEY CO.

Paducah, Kentucky

TALKS TO BEEKEEPERS

(Continued from page 555)

busy in the fields, is a good time to give each colony a thorough examination before cool weather sets in. All inferior queens should be removed and replaced with young vigorous laying queens. This is very important because such queens may fizzle out before spring and this will result in queenlessness.

September is a good month to check for brood diseases. In no case should a colony with American foulbrood be permitted to go into winter quarters. All diseased colonies should be destroyed and the contents of the hives properly disposed of.

There is a circular, No. 392, entitled, "Diagnosing Bee Diseases in the Apiary", by C. E. Burnside, Assistant Apiculturist, and A. P. Sturtevant, Associate Apiculturist, of the U. S. A. Department of Agriculture, Washington, D. C. This 35-page circular may be obtained from Superintendent of Documents, Washington, D. C., at 5c a copy. Every beekeeper should have a copy.

For example, this circular gives the characteristics of the various brood diseases in such a manner that they can be detected easily.

Don't Divide Colonies in the Fall

We occasionally receive inquiries from beekeepers over the country as to whether they should divide their colonies late in the fall. Under no circumstances should this be done. It would be preferable to unite colonies that are not up to full strength rather than attempt to winter sub-normal colonies. Strong colonies in the fall, given an abundance of stores of good quality, are likely to result in strong colonies in the spring. Strong colonies in the spring, given proper management, are likely to be strong colonies ready for the major honey flow. It is the strong colonies, as a rule, that store the large crops of honey.

Be Sure to Get Food-Chambers Well Filled

As stated previously, beekeepers who secure a crop of honey this season will have no excuse for not leaving a sufficient amount of honey for each colony going into winter quarters. Beekeepers should not assume or guess that their colonies are well supplied with stores. They should be absolutely sure about it.

Queens - ITALIAN - Queens

Daughters of Resistant Stock

QUEENS

Caucasians mated to Italian drones

1 to 24, ... $ .90
25 to 99, ... .85
100 or more, ... .80

Over 25 years a shipper.

FREE circular. 10% down books your order for package bees for 1944.

BLUE BONNET APIARIES

R. 1, Box 70, MERCEDES, TEX.

JENSEN'S QUEENS

For your summer and fall requeening. Don't let a single colony go into winter with an old or doubtful queen; to do so may mean the loss of the colony. Next spring may be too late, and queens might not be so plentiful.

Conditions now are more favorable for queen-rearing than they were last spring and we are prepared to make prompt shipment.

PRICES:

1 - 24, 80c each; 25 - 100, 75c each; 101 and up 70c each.

"Magnolia State" strain Italians.

JENSEN'S APIARIES

Macon, Miss.

HOLLOPETER'S QUEENS

Our supply and delivery of early queens was limited by the very late spring. Now during the buckwheat fall flow prompt delivery can be had of most excellent queens. A good young queen introduced now insures uninterrupted egg laying in spring when every egg counts most toward a honey crop.

Untested queens, Italians, 1, 80c; 2 and up, 75c; Tested queens, $1.50; breeders, $6.00.

White Pine Bee Farms, Rockton, Pa.

NORTHERN BRED

Dark Leather Colored Queens, Bred for resistance to disease.

75 cts. Each

DIEMER BEE CO.

Liberty, Mo.

LANGSTROTH AND THE TOP ENTRANCE

(Continued from page 520)

idea. Gradually there has been a change of attitude until now it has been accepted by many and is being studied by others.

The unfortunate part of the whole situation as it now stands is that we are progressing very slowly toward an answer. There is a great deal of interest being shown by beekeepers and as yet they are unable to secure any but meager information. I know this interest is there from mail I have received, especially from the article "The Top-Entrance. Is it a Fad?" (Gleanings, September, 1942.) The average beekeeper has no place to turn for definite and reliable information on the subject, for whoever he asks either has none to offer or is biased either for or against the idea. Beekeepers can be found who will tell you it is the greatest bunch of nonsense ever foisted upon the industry while others will say it is the greatest blessing.

Actually the truth is what is wanted and neither answer gives it. Whether Langstroth was right or whether he was wrong is still undecided. The question constitutes a challenge and a challenge it will remain until it is definitely answered, be it two years or two thousand in coming. Because so many from the colder climates have reported excellent wintering results by use of the top entrance is not in itself proof of anything greater than that the idea is worth more thorough investigation. For those who like to experiment the subject can be highly recommended as one indicating possibilities. This is the first step toward the answer but not the last. It does not immediately help those who want information now but in the long run progress will be made by this old reliable course, at least this is my opinion. What do you think?

Caldwell, N. J.

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PROS AND CONS OF THE TOP ENTRANCE

(Continued from page 521)

summer use, and I may try to convert them back for winter.

To sum up: The pros of the top entrance are freedom from weeds at the entrance, freedom from disturbance by skunks, and excellent wintering; the cons are uncertain honey crops, fiercely angry bees, uncertainty about swarm prevention, and gnawing of entrances wherever opportunity allows.

I leave for my last a very important item. There has been much AFB in this locality for several years. It is imperative that the colonies be looked after for this evil. To look for foulbrood in a top-entrance hive in the active season is inviting death.

Norwichtown, Conn.

[There appears to be much confusion among beekeepers, as to what is meant by a top-entrance hive. When Mr. Latham heard Mr. Conner speak on the top-entrance hive it seems apparent that Mr. Conner had reference to the hive having a completely closed bottom, with brood chamber and entrance on top and supers below such as he describes in his article entitled "Top Entrance in Use," beginning on page 550 of the September, 1940, Gleanings. A somewhat similar hive was used by E. W. Brown, Willow Springs, Illinois, and described page 586 of September, 1927, Gleanings, also page 97 of February, 1928, Gleanings. "The Early History of Top Entrances," by John Conner will be found on page 166 and 167 of March, 1939, Gleanings As brought out by Mr. Conner and others, there is a difference between real top entrances and small flight holes made in the fronts of the hives. The small holes drilled in the fronts of hives do appear to expell some of the moisture during the winter and permit bees to fly out easily, especially when the regular or lower entrances become clogged with dead bees or ice. It seems apparent that more experimental work should be done along this line to determine, if possible the type of hive that should be used in the future. —Editor.]

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The Monthly Honey Market

U. S. GOVERNMENT REPORT
Information From Producing Areas
PLAINS AREA: (Period July 10-26)

Red River Valley of Minnesota and North Dakota. Weather conditions continue ideal for a honey harvest. Sweetclover is in full bloom and recent rains should extend the nectar flow somewhat. In most sections the quantity of sweetclover available is ample to produce a good crop, although in some sections the acreage was quite sharply reduced, and in these sections the crop may be expected to be lighter than normal. Probably over half of a normal crop has already been gathered over the district as a whole, with many colonies with surpluses of 75 to 100 pounds. The average for the district will likely not exceed 50

Iowa. Moisture has been sufficient over all of Iowa to maintain honey plants in good condition. The white clover flow is over but sweetclover is still producing well. In many areas there is a shortage of sweetclover which may result in lower yields. At present most beekeepers are looking for a crop about the same as last year's. Fall honey plants are in good condition and it now looks like the main summer and fall flows may blend into one long continuous season. Little extracting has been reported so far, with most of the honey removed going to local retailers and consumers. Sales f. o. b., per lb., extracted White Clover case to ton lots 12c; sales to retailers by beekeepers $5.80 per case of 6, 5-lb. pails; $5.75 per case of 24, 1-lb. jars. Beeswax country run 41½c per lb., f. o. b. to beekeepers.

Kansas. In eastern Kansas the flow during July was good, both from white clover, which is now about finished, and from sweetclover. Many colonies which were in good condition early in the season have stored well over 100 pounds. Hot weather prevailed over the entire State. Rainfall was sufficient in eastern Kansas to maintain plants in good condition and produce a healthy growth on the fall honey plants. In western Kansas, however, hot dry weather has slowed the honey flow and darkened the honey. Rain is badly needed in this section. Sales f. o. b., extracted Alfalfa and Sweetclover 5-lb. pails $11.60 per dozen, 1-lb. glass jars $5.75 per case of 24.

EAST CENTRAL AND NORTH CENTRAL STATES: (Period July 10-26)

Michigan. On the northern Penninsula bees have done very well on white clover during the past two weeks except during periods of showers. Average gains for good colonies have probably been from six to ten pounds per day. Little trouble was reported from swarming in this section. On the southern Peninsula the white clover flow has past its peak, and in many sections is about over. Some exceptionally good colonies have stored a surplus of 200 pounds or more. On the other hand, many colonies which were not in strong condition at the beginning of the flow have stored a surplus of only 30 or 40 pounds. The average of the State to date is probably under 100 pounds per colony. Some nectar is becoming available from second cutting alfalfa and beans. In most sections of the State rain is needed to improve plant conditions. A little extracting has been reported, but most beekeepers will not take off much of the crop before the first week in August. Sales of glass jars have been unusually heavy, which would indicate that many producers will pack and sell much of their crop in smaller containers this year. Consumer sales in 60-lb. cans have also been unusually heavy. Buyers have been active in this section and a number of large beekeepers have contracted at least a portion of their crop at ceiling levels. Sales f. o. b. per lb. White Clover case to ton lots 12c; 5-lb. pails 14-15c, a few reported high as 19c.

SUMMARY

Over much of the country conditions were very favorable for honey production during the latter half of July. However, in many sections temperatures averaged above normal and in large areas of the country rain is badly needed. In the Great Plains, East and North Central, and Northeastern areas early season rains put clover plants in good condition, and sufficient rain has fallen since that time to maintain a good honey flow. In Ohio and Pennsylvania too much rain resulted in rather light clover crops. The white clover flow is practically ended except in the Red River Valley, but sweetclover continues to produce throughout the northern States. Production in the Southeastern and Gulf States has been only fair, with the exception of Louisiana where a long steady flow has been in progress and fairly good surpluses have been obtained. Much of the Southwest and southern Great Plains area has been excessively dry. In some sections bees are now obtaining little more

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than pasturage. A fairly good crop is being stored in eastern and central Colorado, southern Wyoming and the Milk River Valley of Montana. In the rest of the Intermountain Region prospects now appear below normal, partly due to the late season and partly due to the poor condition of bees at the beginning of the main honey flow. In southwestern California the sage flow is largely ended and bees are now working wild buckwheat. The present flow in central and northern California is only fair. The star thistle flow in northern California is just beginning and present prospects are generally good. In the Pacific Northwest, West of the Cascades the spring vetch and clover flows produced little better than half a crop. Many bees are now being moved to the fireweed areas, which are producing well.

Extracting has been quite general in the southern half of the country from the Atlantic to the Pacific. In the northern half of the country extracting is just getting under way. Beekeepers in all sections of the country are complaining of acute labor shortage. This is especially true of the larger commercial beekeepers.

Buyers continue to scour the country in attempts to contract the 1943 honey crop. Practically all are offering ceiling prices regardless of grade or color. There has been an unusual demand for honey from local retailers and consumers and much of the crop so far extracted has moved in this manner rather than into wholesale channels. There seems to be an unusual demand by consumers for honey in 60's. Many beekeepers indicate they expect to pack a large portion of their crop in small containers for the retail and consumer trade, provided the containers can be obtained.

The July report of the Bureau of Agricultural Economics, released on July 28, states that although the size of the 1943 honey crop is still uncertain according to July 1 reports from over 7,500 beekeepers the present outlook points toward a below average crop. Production up to July 1 of this year averaged only 15.5 pounds per hive, compared with an average yield by that date of about 19 pounds. The number of bee colonies on July 1 was estimated at 4,925,000 about the same a a year ago.

Monthly Report of Honey Producers

Prices of extracted honey formerly carried on this page have been omitted since in time of shortage all prices tend to equal the maximum prices for honey set by the Office of Price Administration under Maximum Price Regulation No. 275 and amendment 4. For these Regulations refer to the January and May issue of Gleanings. Also see the June and July issues.

For more detailed information contact your local Regional Office of O.P.A. or write Washington direct.

Early in August we sent the following questions to honey producers: 1. How does the honey flow (if any) thus far compare with normal? Give answer in per cent. 2. What is your estimate at this time of the 1943 honey crop in your region as compared with the average during the past five years? Give answer in per cent. 3. At what price has honey been sold or contracted for, if any, in large lots (carload or less) in your locality during the past month for (a) extracted honey, per pound (b) comb honey, fancy, and No. 1, per case? 4. What are prices when sold to grocers in case lots of (a) extracted honey in 5-lb. pails, or other retail packages when in terms of 5-lb. pails? (b) Comb honey, fancy, and No. 1. per case? 5. What is the retail price to consumers in your locality of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? 6. How is honey now moving on the market in your locality? Give answer in one word, as slow, fair, or rapid. 7. Is there any of last year's honey in your locality? If so, what per cent of last year's crop was carried over? The answers received are tabulated as follows:

August date.	State	Name	1. Honey flow	2. 1943 crop	3. Large lots Ex. Comb	4. To grocers Ex. Comb.	5. To Consumers Comb	6. Movement.	7 Carryover. 1942
16	B. C.	(A. W. Finlay)	100	100				Rapid	0
10	S-Calif.	(L. L. Andrews)	150	125			.30	Rapid	0
9	SE-Colo.	(Otis E. Adcock)	200	200		4.50	.25	Rapid	0
7	E-Conn.	(Allen Latham)	60	70			.30	Fair	0
12	S-Fla.	(C. C. Cook)	80	80				Rapid	0
10	C-Fla.	(Harry Hewitt)	125	120				Rapid	0
12	SE-Ga.	(J. J. Wilder)		25				Rapid	0
13	NC-Ills.	(A. L. Kildow)	25	40				None	0
9	NC-Ind.	(T. C. Johnson)	100	100			.30	Fair	0
9	NW-Ind.	(E. S. Miller)	100	90			.30	Fair	0
18	N-Mich.	(Ira D. Bartlett)	100	100				Rapid	0
6	E-Mich.	(L. S. Griggs)	90	70			.25	Fair	0
13	S-Mich.	(Floyd Markham)	80	80	6.00		.30	Rapid	0
10	C-Mich.	(E.D.Townsend)	90	80				Rapid	0
12	W-Minn.	(B. L. Morehouse)	100	110				Rapid	0
17	C-Nebr.	(J. H. Wagner)	78	75			.25	Fair	0
11	W-Nev.	(Geo. G. Schweis)	10	10				Fair	0
12	W-N. M.	(C. A. Baltzley)	100	100			.35	Rapid	0
9	NW-N. Y.	(Geo. B. Howe)	50	50				Rapid	0
6	C-N. Y.	(F. W. Lesser)	50	60					0
10	SE-N. C.	(W. J. Martin)	90	75				Good	0
6	C-Ohio	(R. D. Hiatt)	33	33				Rapid	0
10	NC-Okla.	(C. F. Stiles)	80	80				Fair	0
9	C-Penn.	(Harry Beaver)	70	90			.30	Rapid	0
9	SE-Penn.	(D. C. Gilham)	35	50			.30	Fair	0
9	C-Tenn.	(J. M. Buchanan)	75	100				Fair	0
11	E-Tenn.	(W. L. Walling)	75	75				Rapid	0
10	C-Texas	(T. A. Bowden)	55	75				Rapid	0
12	S-Texas	(H. B. Parks)	98	110				Rapid	0
9	S-Texas	(C. G. Mayes)	90	80				Rapid	0
12	W-Utah	(Wm. Moran)	75	90				Fair	2
13	S-Va.	(T. C. Asher)	10	15			.30	Fair	0
10	SE-Wisc.	(N. E. France)	100	100				**Fast**	0

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Reshipping case of 12—2½-lb.	.67	11 lb.
Reshipping case of 6—5-lb.	.42	10 lb.
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The bulk of all bee supplies are bought and honey gathered during the first six months of the year. Even under normal conditions, the manufacturer must plan his production from six to ten months in advance of the active season.

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CONTENTS

September, 1943

An Interpretation of the Problems of Wintering the Honeybee Colony—C. L. Farrar	513 - 518
Handling Packing Material—William L. Coggshall	519
Langstroth and the Top Entrance—John Conner	520
Pros and Cons of the Top Entrance—Allen Latham	521
Commercial Honey Extracting—Hoyt Taylor	522 - 524
Back-lot Extracting—Chester A. Jones	525 - 526
Our Cover Picture	526
Alvah Wells Yates	527
Honey Treats Banish Lunch-box Blues—Mrs. Benj. Nielsen	528 - 529
Dark Honey May be Good—Earl S. Days	530
Great Difference in Bees—C. O. A. Kramer	530 - 531
Bush Honeysuckle: A Good Nectar Plant—C. W. Wood	531 - 532
One Man's Opinion	532 - 533
Second Glances—C. M. Isaacson	533 - 534
OPA and Price Ceilings—Dr. E. F. Phillips	534
Floor Price Needed for Honey—Alan Root	535
From North, East, West and South	536 - 543
Editorials	544 - 546
Cuyahoga County Field Day	547
Western New York Meeting—H. H. Root	548
Just News	549
Producer Packers vs. National Packers	549
Five Summer Meetings — Wisconsin, Minnesota and North Dakota—M. J. Deyell	550 - 551
U. S. Honey Crop Report for July, 1943	552 - 553
Talks to Beekeepers—M. J. Deyell	554 - 555
American Honey Institute News Notes	566
Honey Market	572 - 573

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